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Task Force on Inflation Protection for Employment Pension Plans

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**TASK FORCE ON INFLATION PROTECTION
FOR EMPLOYMENT PENSION PLANS**

**RESEARCH STUDIES
VOLUME 3**

TASK FORCE MEMBERS

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Toronto
February 1988



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John Ilkiw, Chairman

Actuarial Subcommittee

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**John Ilkiw, Chairman
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Technical Report on the Cost of Alternative Inflation Protection Formulas

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CHAPTER 1

Introduction and Acknowledgements

This document explains the three stage methodology employed by the Actuarial Subcommittee of the Task Force on Inflation Protection for Employment Pension Plans to estimate the cost of alternative inflation protection formulas and analyzes the results. Chapter 2 presents an overview of the three stage methodology. Chapter 3 explains the Stage I methodology in detail and analyzes its results. The Stage II and III methodologies and results are presented in Chapters 4 and 5 respectively. More detailed Stage I, II and III cost estimates are contained in appendices.

The Actuarial Subcommittee was composed of four consultants from three actuarial consulting firms retained by the Task Force: David Short of Eckler Partners Ltd; Shiraz Bharmal of TPF&C, a Towers-Perrin company; and William Chinery and John Ilkiw of William M. Mercer Limited. John Ilkiw was the Subcommittee's Chairman. Michael Wolfson of Statistics Canada assisted the Actuarial Subcommittee to select and analyze the representativeness of the pension plan data used in the analysis.

The Actuarial Subcommittee was responsible for establishing the methodology, assumptions and bases appropriate for this report. The computations were performed and verified by William M. Mercer Limited. The Actuarial Subcommittee members are satisfied that the results contained in this report are reasonable, given the purposes of the report.

This report contains the most exhaustive and comprehensive analysis of the cost of inflation protection ever undertaken in Canada and it could not have been completed without the assistance of a great many dedicated individuals. The Actuarial Subcommittee would like to acknowledge specifically the efforts of Louis Ng, Howard Smith and Eleanor Meyers.

Louis Ng and Howard Smith of William M. Mercer Limited spent long hours and longer weekends developing innovative actuarial methodologies, overcoming

unforeseen technical problems and undertaking seemingly countless cost estimates. Eleanor Meyers, employed by Gordon Capital but working on contract with Royal Trust, spent many hours reprogramming various modules of Prediktor-4 to analyze the impact of inflation protection under changing economic conditions.

The Actuarial Subcommittee also acknowledges the assistance of the many plan sponsors who submitted their pension plans for analysis and the assistance of their pension consultants for the collection and preparation of the pension plan data.

CHAPTER 2

Overview of Three Stage Analysis

Table 2.1 provides a schematic summary of the three stage analysis undertaken by the Actuarial Subcommittee of the Task Force on Inflation Protection for Employment Pension Plans.

I STAGE I: LONGRUN ECONOMIC VALUE OF INFLATION PROTECTION

Stage I estimates the longrun economic value or 'cost' of implementing seven generic inflation protection formulas, with three degrees of retroactivity, into thirteen hypothetical 'average' pension plans. The thirteen plans were constructed to be broadly representative of the universe of Ontario pension plans.

Economic value estimates allow a standardized comparison of the longrun impact of inflation protection across pension plans of different designs. As will be explained below, economic value estimates are conceptually and computationally different from operating cost estimates that determine day-to-day funding levels for pension plans. The Stage I methodology is comparable to that used by previous pension reform studies.

The seven generic inflation protection formulas used in Stage I and their origin are listed in Table 2.2. These formulas are the analytical reference points for Stages I, II and III. The formula of (75% of CPI)-1% is the central reference point because it already appears in Canadian pension legislation, the federal Pension Benefits Standards Act.

In total, including various sensitivity tests, over 60,000 economic value estimates were generated and allowed the Task Force to consider the longrun impact of almost every conceivable inflation protection formula.

II STAGE II: FIRST-YEAR OPERATING COSTS OF INFLATION PROTECTION

Stage II estimates first year 'operating costs' that alternative inflation protection formulas impose on a sample of 22 actual Ontario pension plans. The 22 plan sample was selected to be broadly representative of Ontario's pension plan universe. Two measures of operating cost are estimated:

- funding cost to satisfy Pension Benefits Act (PBA) regulations and Canadian Institute of Actuaries (CIA) professional requirements; and,
- expensing cost to satisfy Canadian Institute of Chartered Accountants (CICA) and Financial Accounting Standards Board (FASB) accounting requirements.

The estimation of first year operating cost increases distinguishes the Task Force cost study from earlier studies. Previous pension reform studies did not estimate the increased operating cost of implementing inflation protection in actual pension plans. They relied on longrun economic value estimates calculated for hypothetical 'average' pension plans. While the Stage I economic value estimates are useful as measures of the underlying longrun value or cost of inflation protection, they do not capture the first year operating cost increases faced by actual pension plans.

In total, Stage II provided the Task Force over 10,000 first year operating cost estimates. As with Stage I, the array of estimates allowed the Task Force to consider the impact of almost any conceivable inflation protection formulas.

Both Stage I and Stage II cost estimates were calculated using an actuarial valuation model developed by Statistics Canada and the federal Department of Insurance (now the Office of Financial Institutions) and subsequently refined and expanded by William M. Mercer Limited.

III STAGE III: MULTI-YEAR OPERATING COSTS OF INFLATION PROTECTION

Stage III estimates the added uncertainty CPI-linked inflation protection formulas introduces into short-run pension plan operating costs. This is accomplished by examining the impact that mandatory inflation protection has on annual operating costs of three actual pension plans over a twenty year period with changing inflation rates, earnings growth rates and investment returns. A key concern is that a combination of high inflation, low investment returns and mandatory inflation protection could impose unacceptably high levels of short-run-pension costs.

Multi-year operating costs are estimated for a flat benefit plan, a career average contributory plan and a final average non-contributory plan and are expressed in terms of both funding and expensing. The four formulas examined are linked directly to the CPI: (100% of CPI) -2.5%; (75% of CPI) -1%; 60% of CPI and 100% of CPI.

The multi-year analysis assumes that the economic conditions over the twenty year period 1967 to 1986 are repeated in the future. A wide spectrum of economic conditions comprised this period including periods of stable inflation and real investment returns (1967-72), rising inflation and negative real investment returns (1973-81), and declining inflation and high real investment returns (1982-86). The portfolio of each plan was assumed to be invested 50 per cent in equities and 50 per cent in bonds.

The estimation of the increased uncertainty that inflation protection introduces into the operating cost of actual pension plans also distinguishes the Task Force's cost study from previous studies. While a 1979 study undertaken by the federal government estimated multi-year costs, its analysis was limited to one hypothetical pension plan, relied on 'best estimate' assumptions of various economic variables and did not address expensing costs which were only first required in 1987. Stage III provided the Task Force with over 800 operating cost estimates.

Stage III multi-year cost estimates were calculated using Prediktor-4, a micro-computer simulation model provided by Royal Trust.

TABLE 2.1

SUMMARY OF THREE STAGE ANALYSIS

Stage I	<u>Longrun Economic Value Of Inflation Protection</u>
	Economic values, not operating costs
	Seven generic inflation protection formulas
	Longrun economic values for 13 'average' plans
	Method comparable to previous studies
Stage II	Over 60,000 economic value estimates
	<u>First-Year Operating Cost Of Inflation Protection</u>
	Single-year cost estimates for 22 real plans
	Two operating cost measures: <ul style="list-style-type: none">-funding to satisfy PBA and CIA requirements-expensing to satisfy CICA and FASB requirements
	Not undertaken by previous studies
Stage III	Over 10,000 operating cost estimates
	<u>Multi-Year Operating Cost of Inflation Protection</u>
	Operating costs under changing economic conditions
	Twenty year costs for three actual plans and four CPI-linked formulas
	Replay 1967-86 economic conditions
	Limited effort by previous studies
	Over 800 operating cost estimates

TABLE 2.2**SEVEN GENERIC FORMULAS**

Formula	Origin
100 % of CPI	Canada and Quebec Pension Plans
60% of CPI	Ontario White Paper(1)
(75% of CPI) -1%	Federal Pension Benefits Standards Act(2)
(100% of CPI) -2.5%	Federal Parliamentary Task Force on Pension Reform(3)
Five year average yield Canada Long Bonds - 3.5% on Canada Long Bonds -3.5%	Canadian Association of Pension Supervisory on Authorities
Fund return -3.5%	Excess interest method 1
Fund return -7.0%	Excess interest method 2
(1) Ontario proposal included an 8.0 per cent cap on adjustment in any one year.	
(2) Federal formula is optional and applies to preretirement years of deferred members only.	
(3) Task Force proposal included caps related to active members earnings growth and pension fund investment earnings.	

CHAPTER 3

Stage I Methodology and Analysis

I METHODOLOGY, THIRTEEN 'AVERAGE' PLANS AND SEVEN INFLATION FORMULAS

A Economic Value Estimates

Economic value estimates measure the longrun cost of pension benefits and allow a standardized comparison of the impact of inflation protection across pension plans of different designs. Economic value estimates are conceptually different from operating cost estimates in two important respects. First, they are calculated using 'best estimates' of future longrun real investment returns, real earnings growth and inflation. Best estimates do not include safety margins which usually characterize the assumed value of these variables when they are used to calculate funding requirements under PBA regulations and CIA professional standards. Second, they assume active members of most career average plans and all flat benefit plans have their benefits periodically upgraded to keep pace with earnings growth. In effect, these career average and flat benefit plans are assumed to operate over the longrun as final average plans. This assumption is consistent with the combined experience of the Actuarial Subcommittee.

Because economic values are calculated using best estimate assumptions and explicitly recognize that career average and flat benefit plans in reality often operate as final average plans, Stage I economic estimates measure of the longrun cost of existing pension benefits, and the incremental longrun cost of inflation protection.

While not identified as such, past public policy debates on the cost of pension reform relied on economic value estimates including 'Better Pensions for Canadians' (1982) issued by the federal government, 'A Consensus Brief on Canadian Retirement Income' (1984) issued by the Business Committee on Pension

Policy and 'Ontario Proposals for Pension Reform' (1984) issued by the Government of Ontario.

B Thirteen 'Average' Plans

Based upon the experience of the participating actuarial firms and Statistics Canada data, thirteen hypothetical but representative 'average' defined benefit plans were created. The thirteen plans and their principal characteristics are summarized in Tables 3.1 and 3.2.

The tables are self-explanatory with the assistance of footnotes, but three features of the thirteen average plans merit emphasis. First, the hypothetical plans cover an estimated 89 per cent of all pension plan members under Ontario jurisdiction which is a high level of representation. The remaining 11 per cent are members of money-purchase, composite or other plan design types.

Second, each plan is assumed to follow a characteristic voluntary policy of updating post-termination benefits of retired and deferred plan members. Retired members of private sector plans are assumed to receive ad hoc updates at the rate of 0%, 40% or 70% of inflation, while retired members of public sector plans are assumed to receive 40% or 70% of inflation. The assumed higher level of voluntary inflation protection for retired members of public sector pension plans is consistent with observed practices. Deferred members of both private and public sector plans are assumed to receive no updates.

Third, plan number 3, a private sector contributory career average plan, is assumed to provide 0% updates for active plan members. This plan represents the few plans which not only do not provide upgrades for retired and deferred active plan members, but also do not provide upgrades to active plan members.

C Seven Generic Formulas with Three Degrees of Retroactivity

Economic value estimates were calculated for each of the thirteen plans before and after the introduction of the seven generic inflation protection formulas

summarized in Table 2.2. The economic value of the seven formulas were calculated assuming three degrees of increasing retroactivity defined as follows.

Prospective Inflation Protection:

Only benefits earned in the future are protected from future inflation. Current retirees would not have their pensions inflation protected. Active members would be protected, but only for pension benefits accrued after the formula is legislated. It would take about 35 years before a full retirement benefit is inflation protected.

Retroactive Inflation Protection:

Benefits earned both in the future and the past are protected from future inflation. Current and future retirees would have their full retirement benefit inflation protected as of the effective date of the formula. There would be no wait before a full retirement benefit is inflation protected.

Retroactive Inflation Protection with Catch-Up:

Benefits earned both in the future and the past are protected from future inflation and they are updated for past inflation. Current and future retirees would have their full retirement benefits immediately protected, and in addition, retirees would receive a one time increase to update their pensions to the level it would be had the inflation protection formula been in effect throughout their retirement years.

The seven inflation formulas, with the three degrees of retroactivity, were applied to both the deferred and retired members of the thirteen hypothetical average plans.

II ECONOMIC AND ACTUARIAL ASSUMPTIONS

A 'Best Estimate' Assumptions

Table 3.3 summarizes the economic and actuarial assumptions used to calculate Stage I economic value estimates. Key among these assumptions are the assumed best estimates of future real investment return, real earnings growth and inflation. These three variables principally determine the magnitude of the estimated economic value of pensions both before and after the introduction of inflation protection.

After examining historical data and considering likely future events, the Actuarial Subcommittee selected 3.0 per cent, 2.0 per cent and 5.0 per cent as best estimates for longrun real investment returns, real salary growth and inflation, respectively. To illustrate how economic value estimates change with the assumed level of longrun inflation, value estimates were also calculated assuming 0.0 per cent, 3.0 per cent, 6.0 per cent, 9.0 per cent and 12.0 per cent inflation.

It is important to note that under the full range of longrun inflation assumptions the assumed real investment return and real salary growth remain unchanged at 3.0 per cent and 2.0 per cent, respectively. This reflects the Actuarial Subcommittee's view that longrun real interest returns and earnings growth are unaffected by longrun inflation. As will be demonstrated below, alternative views of how different levels of longrun inflation affect longrun real returns and earnings growth will produce different economic value estimates for the same inflation protection formulas.

B Derivation of 'Best Estimates'

Tables 3.4 and 3.5 present historical statistics used by the Actuarial Subcommittee to assist in the selection of the best estimates for longrun real investment returns, longrun real earnings growth and longrun inflation.

Investment Return:

Actual pension plan investment returns are not available for the full 50-year period 1936-85, but pension funds invested in stocks and bonds in proportions ranging from 60 per cent stocks and 40 per cent bonds to 40 per cent stocks and 60 per cent bonds would have had real annualized returns ranging from 4.04 per cent to 2.84 per cent, before trading costs or management fees. During the 25-year period 1961-85, these portfolios would have returned between 3.27 per cent and 2.82 per cent. However, over the same 25-year period a pension fund earning the SEI median each year would only have had an annualized real return of 2.62 per cent, net of trading costs. During the 10-year period 1976-85, the real returns to the selected portfolios would have ranged from 6.59 per cent to 5.48 per cent. Over the same period a fund earning the SEI median each year would have a 5.81 per cent annualized real return.

While the SEI annualized return of 2.62 per cent suggests a longrun best estimate investment return assumption of below 3.0 per cent, the Actuarial Subcommittee selected 3.0 per cent because it believed this figure is more representative of future returns to pension funds. In particular, the experience of the Actuarial Subcommittee indicates that pension funds have over the past decade altered their longrun asset mix to encompass a higher proportion of equities which are expected to earn higher longrun returns. While not examined in detail, it is believed that the relatively low SEI annualized median return over the period 1961-85 is at least partially attributable to past asset mix policies which had a higher representation of lower return fixed income securities.

The 3.0 per cent best estimate can be characterized as the expected longrun real return on a pension fund invested in 50 per cent stocks and 50 per cent bonds. The difference between the assumed 3.0 per cent and the 3.45 per cent historical return during the period 1936-85 can be attributed to trading costs and the reality that pension plans skew their equity investments towards lower return/risk 'blue chip' issues. They generally do not invest in the market index as is implicitly assumed in the calculation of the above returns to the three example portfolios.

The Actuarial Subcommittee realized that the historical data could be interpreted to support other best estimates of real investment returns that are both above and below 3.0 per cent. As well, it is recognized that investment performance may be a function of portfolio size. For example, a study undertaken by Sobeco Group Inc. suggests that larger pension funds, those over \$25 million, earn higher returns by a margin of about 1.0 per cent. Accordingly, Stage I economic value estimates were also selectively calculated using longrun real investment returns of 3.5 per cent and 2.5 per cent in order to measure cost sensitivity.

Earnings Growth:

The Actuarial Subcommittee selected 2.0 per cent for the best estimate of longrun real earnings growth. As indicated in Table 3.5, the 2.0 per cent estimate is comparable to the 2.13 per cent growth rate of wages and salaries experienced over the 50 year period 1936-85. However, Table 3.5 also reveals that the 2.0 per cent best estimate exceeds by 0.37 per cent the growth rate of earnings over the 25 year period 1961-86, and by a much larger 1.76 per cent over the recent ten year period 1976-85.

While the recent historical data suggest real earnings growth should be below 2.0 per cent, longer historical series suggest a growth rate of 2.0 per cent. Because economic value estimates are intended to measure the longrun cost of different inflation protection formulas, the Actuarial Subcommittee concluded that the longrun historical growth rate of earnings was the better indicator of future longrun growth in earnings.

Inflation:

With real investment earnings and real earnings growth fixed at 3.0 per cent and 2.0 per cent, respectively, the inflation assumption becomes the key factor determining the economic value of alternative inflation protection formulas. The Actuarial Subcommittee selected 5.0 per cent as the best estimate of future longrun inflation.

Table 3.5 indicates that the 5.0 per cent best estimate lies between the annualized 4.42 per cent inflation rate over the 50 year period 1936-85, and the annualized rate of 5.79 per cent over the 25-year period 1961-85. Over the recent ten year period 1976-85 prices rose at an annual rate of 7.84 per cent. The 1987 Survey of Economic Expectations undertaken by Peat-Marwick reveals a median inflation forecast of 4.9 per cent for the 15-year period 1987-2002. .

To illustrate the sensitivity of the economic value of alternative inflation protection formulas to the assumed level of longrun inflation, economic value estimates have been calculated under longrun inflation rates ranging from 0.0 per cent to 12.0 per cent. Real investment earnings and real earnings growth are maintained at 3.0 per cent and 2.0 per cent, respectively.

C 'Best Estimates' Compared to Previous Studies

The Actuarial Subcommittee's best estimate assumptions for real investment returns, real investment earnings and inflation are compared in Table 3.6 with the best estimate assumptions of four earlier studies examining mandatory inflation protection.

The Actuarial Subcommittee's 5.0 per cent inflation assumption lies between the 3.50 per cent assumption used by the Lazar study and the federal Green Paper and the 6.0 per cent assumption adopted by the BCPP and Ontario studies. The Actuarial Subcommittee's 3.0 per cent real investment return assumption is halfway between the 3.50 per cent assumption used in the Lazar study and the federal Green Paper and the 2.5 per cent assumption in the BCPP and Ontario studies. Finally, the Actuarial Subcommittee's 2.0 per cent real earnings assumption is equal to that assumed by the Lazar study and the Green Paper, but 0.5 per cent above the earnings growth assumption by the BCPP and Ontario studies.

D Sensitivity Assumptions

The sensitivity of economic value estimates to the assumed level of real investment returns and real earnings growth was selectively tested using the two sets of economic assumptions presented in Table 3.7.

The first set of assumptions embody the view that longrun real investment returns and earnings growth decline at higher levels of longrun inflation. When inflation is 0.0 per cent, real investment returns and real salary growth are 3.0 per cent and 1.5 per cent, respectively. However, when longrun inflation is 12.0 per cent, real investment return and real earnings growth are assumed to decline (to 1.34 per cent).

The second set of assumptions maintain the longrun inflation rate at 5.0 per cent, but raises and lowers the assumed real investment return by 0.5 per cent above and below the Actuarial Subcommittee's 3.0 per cent best estimate. As well, the earnings growth rate assumption is lowered 0.5 per cent below the Actuarial Subcommittee's 2.0 per cent best estimate.

These alternative sets of assumptions could have been selected and cogently defended by reasonable individuals reviewing the same historical data available to the Actuarial Subcommittee.

The first set of assumptions are those used by William M. Mercer Limited in a 1986 study commissioned by Finance Canada. The purpose of the study was to assess the longrun cost of alternative inflation protection formulas. It is understood by the Actuarial Subcommittee that the (75% of CPI) -1% formula now contained in the federal Pension Benefits Standards Act was selected principally because of the longrun cost characteristics portrayed in the 1986 study. As will be demonstrated below, the feature which made the formula attractive to the federal government is not inherent in the formula, but rather the product of the underlying economic assumptions which specify that longrun real investment returns and longrun real earnings growth decline at higher levels of longrun inflation.

The second set of assumptions are based upon suggestions received by the Actuarial Subcommittee at a public meeting held to seek comments on the Task Force's various background studies, including the cost study. These assumptions recognize that the Actuarial Subcommittee's 2.0 per cent best estimate of

future real earnings growth may be too high, and that the 3.0 per cent best estimate of future real investment returns may not reflect the different level of returns available to large and small pension funds.

III RESULTS USING BEST ESTIMATE ASSUMPTIONS

A Prospective Inflation Protection

Figures 3.1, 3.2 and 3.3 illustrate the estimated longrun economic value of five inflation protection formulas applied prospectively under assumed longrun inflation rates ranging from 0.0 per cent to 12.0 per cent. Economic values are expressed as a percentage of payroll. Figure 3.1 portrays plan number 2 which is a flat benefit with normal retirement age 60 and voluntary retiree updates at 70 per cent of the CPI. Figure 3.2 portrays plan number 6 which is a career average plan with normal retirement age 65 providing no updates for retirees. Figure 3.3 portrays plan number 9 which is a final average plan with normal retirement age 60 and voluntary updates of retirees at 40 per cent of CPI.

Six Principles:

The figures demonstrate six important principles. First, the general pattern of the longrun economic value on cost curves for the selected inflation protection formulas applied to flat benefit and career average plan are essentially the same as for the final average plan. This similarity reflects the assumption, which is supported by the observation and experience of pension practitioners, that different types of defined benefit pension plans often operate in the longrun as final average pension plans. This means that when considering longrun pension policies, most defined benefit plans can conveniently be viewed as final average earnings plans regardless of their particular shortrun benefit design.

Second, the longrun economic cost of providing pensions, whether or not they are inflation protected, declines as the longrun rate of inflation increases. This occurs because inflation erodes the real value of promised benefits. For example, at 0.0 per cent inflation the example flat benefit plan portrayed in

Figure 3.1

Long Run Cost of Inflation Protection

Plan 2: Flat Benefit: FB/NC/60/100/70/0/M

(No Retroactivity)

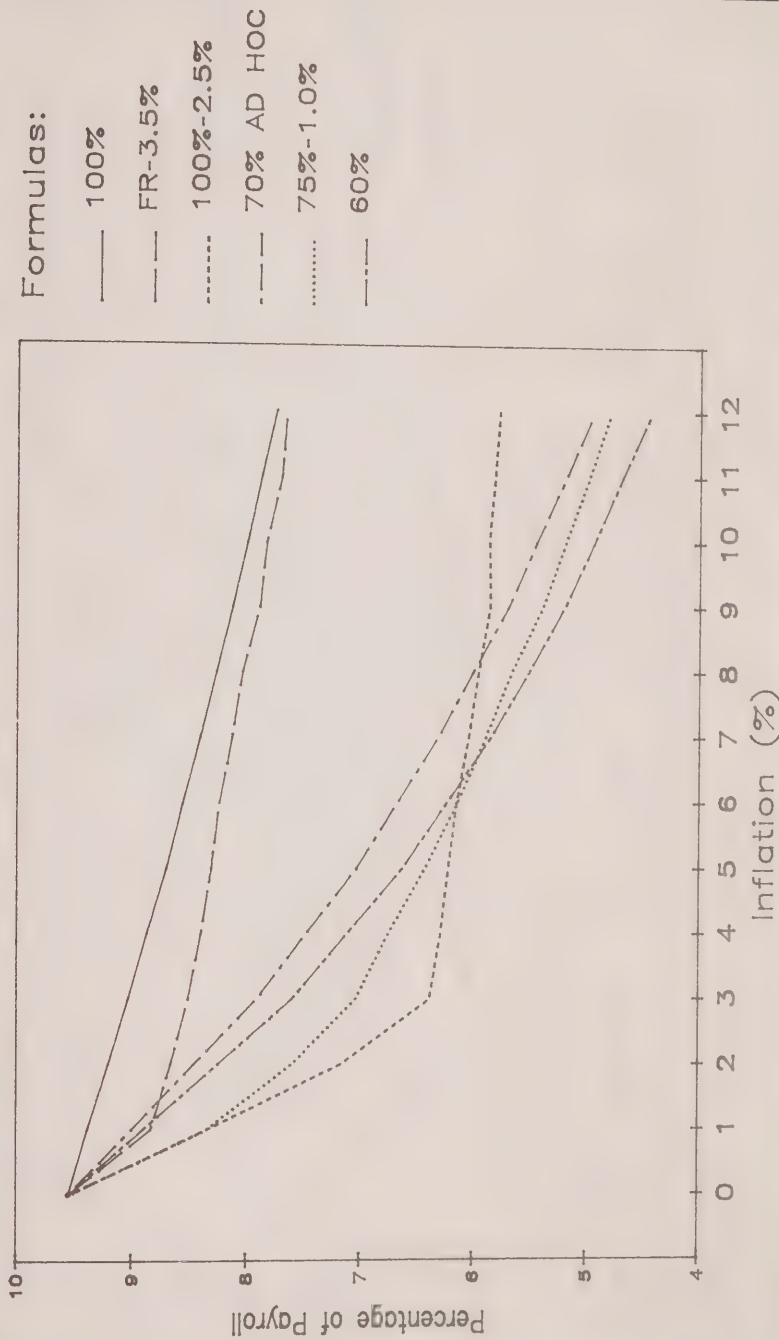


Figure 3.2
Long Run Cost of Inflation Protection
Plan 6: Career Average: CA/NC/65/100/0/0/A
 (No Retroactivity)

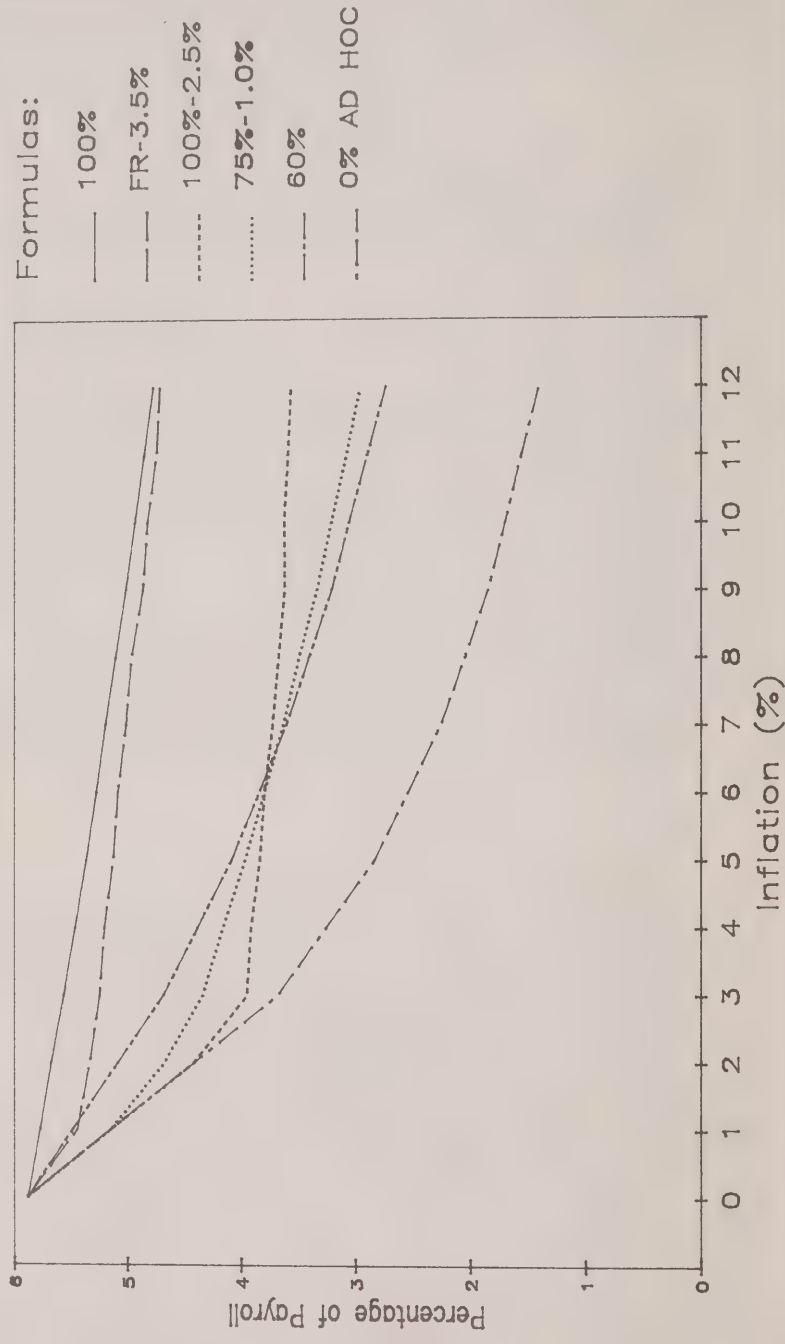


Figure 3.3
Long Run Cost of Inflation Protection
Plan 9: Final Average: FA/C/60/100/40/0/A
 (No Retroactivity)

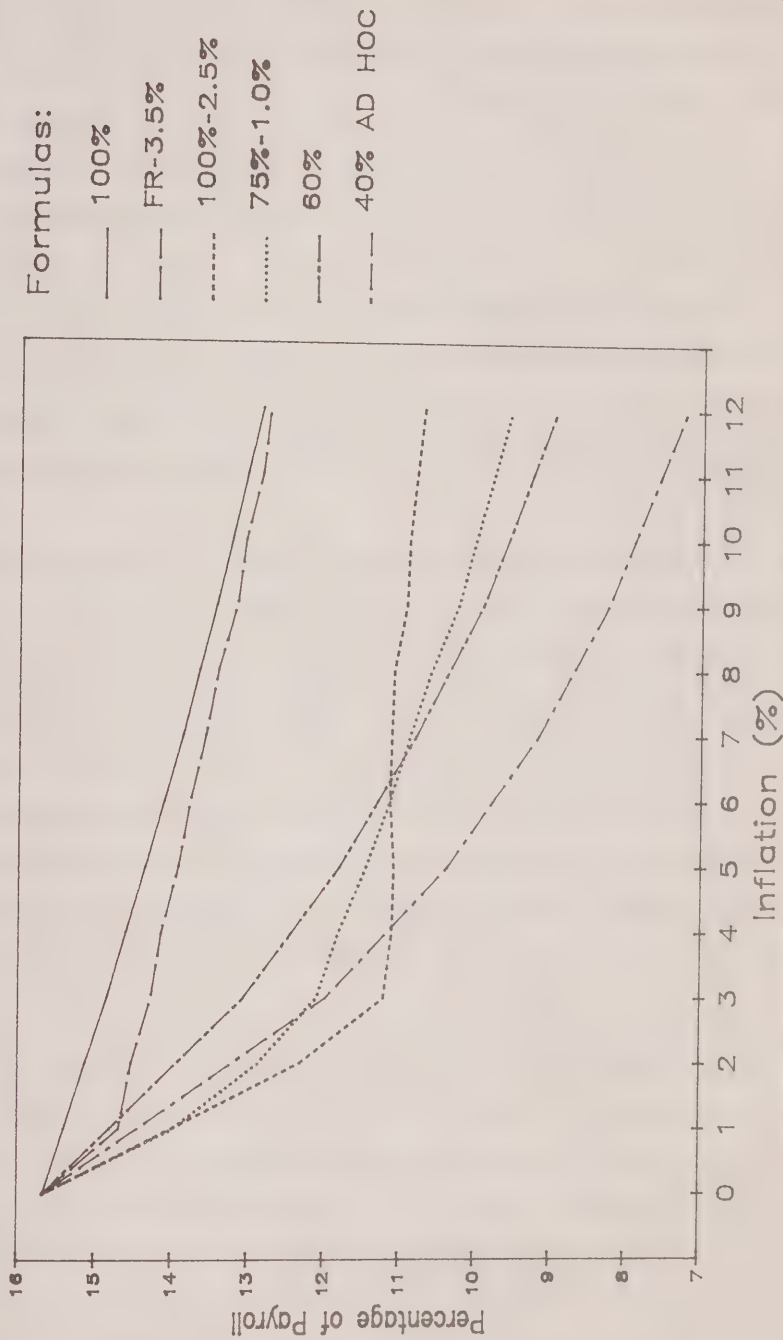


Figure 3.1 has an economic value of 9.55 per cent of payroll. However, at 9.0 per cent inflation and with benefits protected at 60% of CPI, its longrun economic cost is 5.20 per cent of payroll.

Longrun economic costs decline even with 100% inflation protection. This occurs because the pension benefit is calculated on the average of the final five years earnings and the real value of this average declines in presence of inflation.

Third, the three middle range formulas [(100% of CPI) -2.5%, (75% of CPI) -1% and 60% of CPI] produce at the longrun inflation rate of 6.0 percent essentially the same longrun costs. Below 6.0 per cent inflation, the 60% of CPI formula has the highest economic value, then (75% of CPI) -1% and finally (100% of CPI) -2.5%. Above 6.0 per cent inflation the relative economic values of the formulas are reversed.

Fourth, the formulas 100% of CPI and Fund Rate-3.5% have the highest economic value at all but the lowest levels of longrun inflation. For example, in Figure 3.3 the economic value of the final average plan at 5.0 per cent inflation with the (75% of CPI) -1% inflation formula is 11.45 of payroll, while the 100% of CPI and Fund Rate-3.5% raise longrun plan value to 14.35 percent and 13.92 percent of payroll, respectively.

Fifth, the incremental longrun economic cost of implementing inflation protection is reduced by the current level of inflation protection voluntarily provided. At 5.0 per cent inflation the flat benefit plan in Figure 3.1, which updates retirees benefits at 70% of CPI, has an initial longrun economic cost of 7.04 per cent of payroll. This exceeds what would be imposed by the introduction of one of the three middle range inflation protection formulas and thus the cost of the plan, over the longrun would be unaffected by mandatory inflation protection.

In contrast, the career average plan portrayed in Figure 3.2 does not provide updates for retirees and will face the full impact of any inflation protection formula. For example at 5.0 per cent inflation, the plan's longrun economic cost is 2.83 per cent of payroll. The introduction of mandatory inflation protection at, say (75% of CPI) -1% raises its longrun economic cost to 3.96 per cent, an increase of 1.13 per cent of payroll.

The final average pension plan in Figure 3.3 provides updates for retirees at 40% of CPI and this practice partially offsets the full impact of mandatory inflation protection on the longrun economic value of the plan.

Sixth, the pattern of longrun cost for the three selected plans, which is representative of the 13 Stage I plans, suggests various criteria for evaluating the alternative inflation protection formulas. If a middle range of inflation protection with moderate longrun economic cost increases is an objective, then the (100% of CPI) -2.5%, (75% of CPI) -1% and 60% of CPI formulas should be considered. If uniform or level longrun economic costs is an objective, then among these formulas the (100% of CPI) -2.5% should be considered. Finally, if maximum inflation protection is the objective without regards to increases in longer economic value then the 100% of CPI and Fund Rate-3.5% formulas should be considered.

Table 3.8 summarizes the impact of implementing prospectively the seven generic inflation protection formulas in the 13 average pension plans for Stage I. The economic cost estimates are calculated using the Actuarial Subcommittee's 5.0 per cent best estimate for longrun inflation. The figures confirm that under a given formula, pension plans which currently provide a level of inflation protection will generally face the lowest percentage increase in longrun economic costs. For example, under (75% of CPI) -1% five of the six plans which provide no inflation protection for retired members face longrun economic cost increases ranging from 28.92 per cent to 40.22 per cent. In contrast, the seven plans that do provide inflation protection face cost increases ranging from 0 per cent to 10 per cent.

Although plan 3 does not provide ad hoc updates for retirees, the introduction of inflation protection produces relatively small increases in longrun costs. With the introduction of (75% of CPI) -1% inflation protection, longrun costs increase by only 11 per cent compared to 28.99 per cent for plan 4 which is also a contributory career average plan. Plan 3 has a smaller increase in longrun cost because active members' benefits are not upgraded. The lack of upgrades results in lower initial retirement benefits and therefore lower indexation amounts. This translates into lower longrun cost increases.

Two Potential Misinterpretations:

Figures 3.1, 3.2 and 3.3 foster two potential misinterpretations about the relationship between inflation and the cost of inflation protection.

The first potential misinterpretation is that the shape of each longrun curve reflect solely the inherent characteristics of the associated inflation formulas. This is not true. The shape of the curves, specifically their downward sloping pattern, is also a product of the underlying economic assumption that real investment returns and earnings growth remain at 3.0 per cent and 2.0 per cent respectively, regardless of the assumed level of longrun inflation.

Different assumptions about how longrun real investment returns and earnings growth respond to longrun inflation will produce different curves. For example, if it is assumed that real investment returns and earnings growth decline at higher levels of longrun inflation, then the curves in Figures 3.1 through 3.3 would be flatter, and for some formulas even upward sloping. The sensitivity of longrun economic costs to alternative economic assumption is examined below.

The second potential misinterpretation is that shortrun increases in inflation lower shortrun pension plan costs. This is not true. The figures only portray the longrun relationship between the economic value or cost of inflation protected pensions assuming different levels of longrun inflation. The figures do not portray the consequences of shortrun inflation rates departing from the assumed longrun level. For example, it would be wrong to conclude from Figure 3.3 that with a 100% of CPI inflation formula a one year increase in inflation from 2.0 per cent to 6.0 per cent would reduce plan costs from 15.22 per cent of payroll to 14.22 per cent of payroll. The consequences of shortrun economic experience departing from expected longrun experience is examined in Stage III.

B Retroactive Inflation Protection

Figures 3.4 through 3.7 illustrate the combined impact of implementing prospective, retroactive and catch-up CPI-linked inflation protection on the longrun

economic cost of the 13 Stage I pension plans. The estimated economic costs are calculated using the Actuarial Subcommittee's best estimate of 5.0% longrun inflation. The four figures summarize the cost estimates presented in Tables 3.8, 3.9 and 3.10.

In each figure the bottom component of the columns indicate the initial longrun economic cost of the represented pension plan. The second component indicates the incremental cost of prospective inflation protection, and the third component is the economic cost of amortizing over 15 years the unfunded liability created by retroactively applying the particular inflation protection formula to past service. Finally, the upper component is the estimated economic cost of amortizing catch-up retroactivity.

An examination of the four figures results in the following conclusions. First, the 100% of CPI formula produces the largest increases in longrun costs. For example, retroactivity with catch-up raises the longrun cost of plan 11 to 13.60 per cent of payroll from an initial value of 6.51 per cent, an increase of 7.09 per cent of payroll. In contrast, the other CPI-linked formulas raise plan 11's longrun economic costs by only 1.46 to 2.17 per cent of payroll.

Second, the three middle range inflation protection formulas produce roughly the same increases in the longrun costs. For plan 11 the (75% of CPI)-1% formula applied retroactively with catch-up increases longrun economic cost by 1.80 per cent, the 60% of CPI formula by 2.17 per cent and (100% of CPI)-2.5% formula by 1.46 per cent of payroll.

Third, percentage of payroll required to amortize the unfunded liability created by retroactivity (without catch-up) is as large or larger than the economic cost of prospective inflation protection only. For plan 11 the incremental cost of prospective inflation protection at (75% of CPI)-1% is 0.66 per cent of payroll. However, the cost of retroactive application of the formula is 0.65 per cent of payroll. The cost of catch-up retroactivity would be another 0.49 per cent of payroll.

These percentage of payroll estimates of the economic cost of retroactivity are affected by the 15 year amortization period and amortization method. For example, a longer/shorter amortization period would decrease/increase the cost of retroactivity when expressed as a level percentage of payroll.

Figure 3.4
Inflation Protection at 100% CPI-2.5%
Long Run Cost in 13 Model Plans
 (Inflation Rate 5 percent)

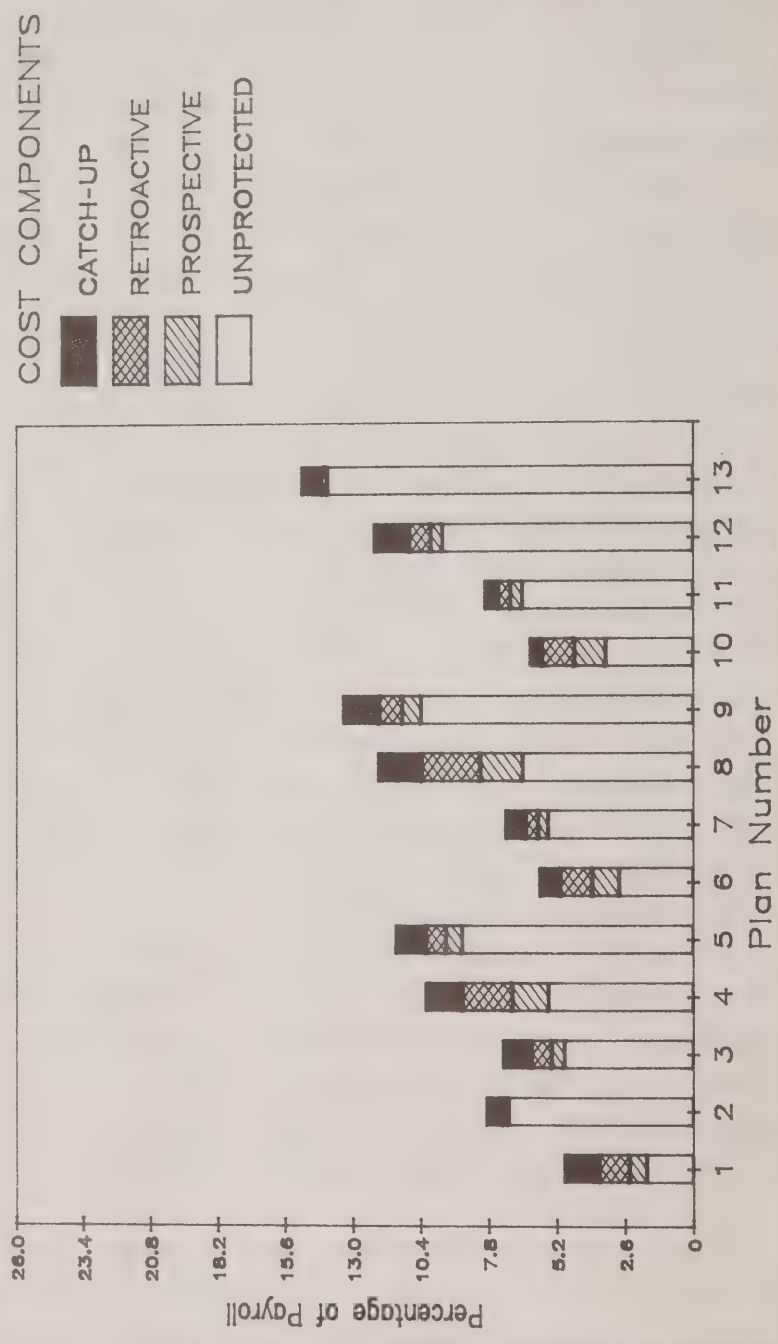


Figure 3.5

Inflation Protection at 75% CPI-1.0% Long Run Cost in 13 Model Plans

(Inflation Rate 5 percent)

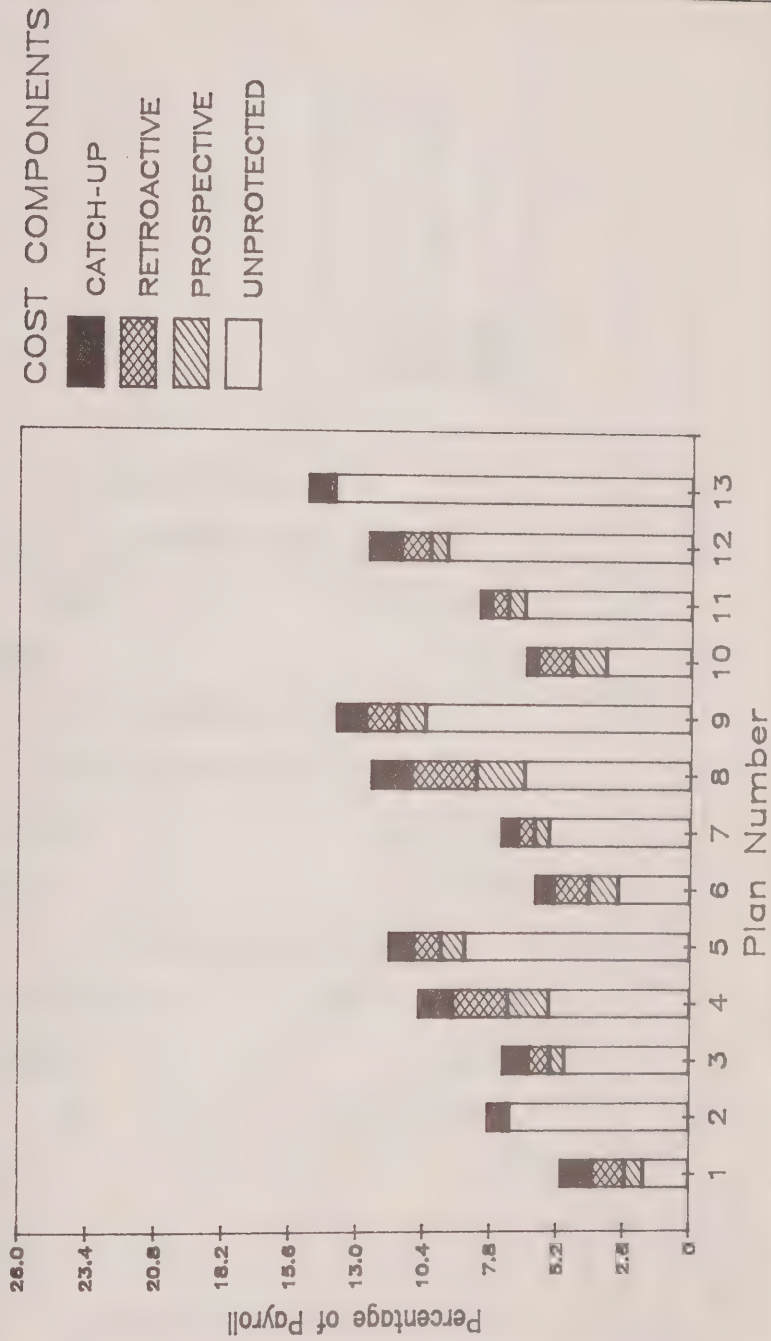


Figure 3.6
Inflation Protection at 60% CPI
Long Run Cost in 13 Model Plans
 (Inflation Rate 5 percent)

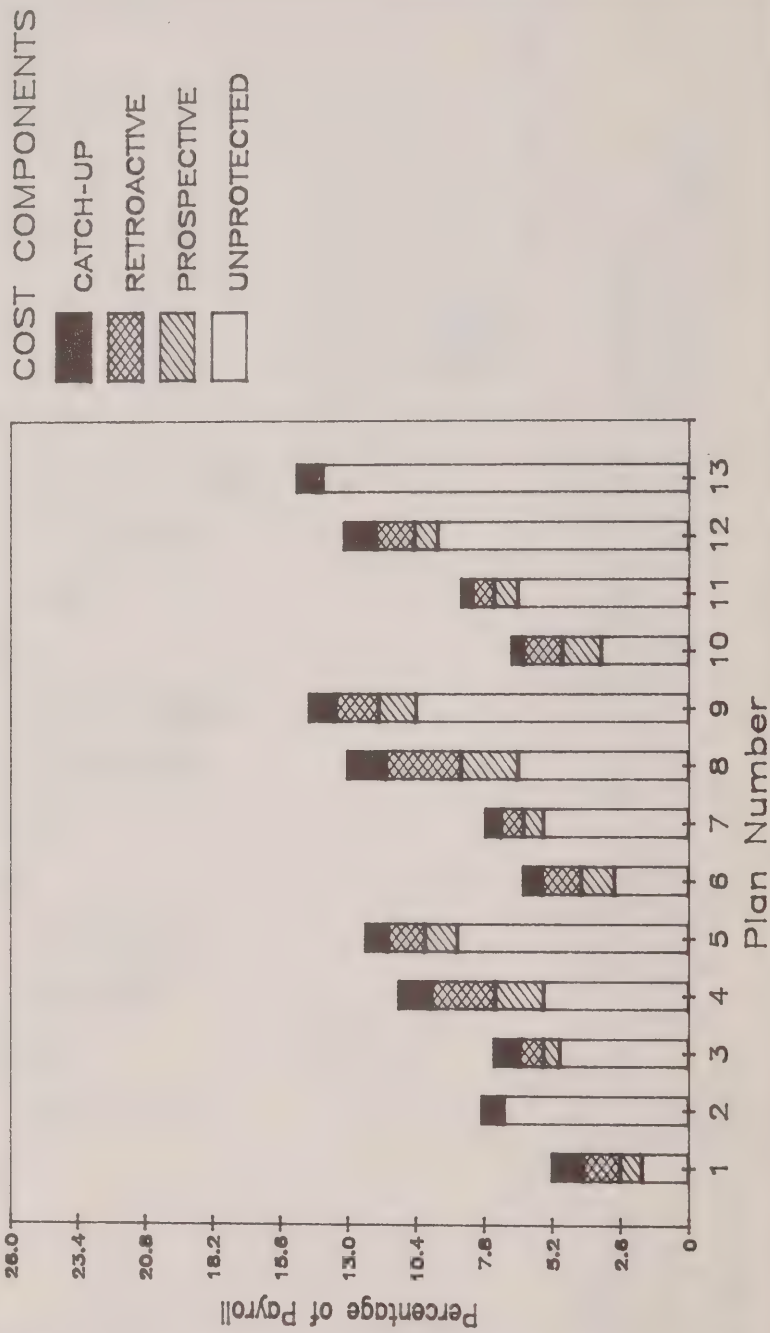


Figure 3.7

Inflation Protection at 100% CPI Long Run Cost in 13 Model Plans

(Inflation Rate 5 percent)

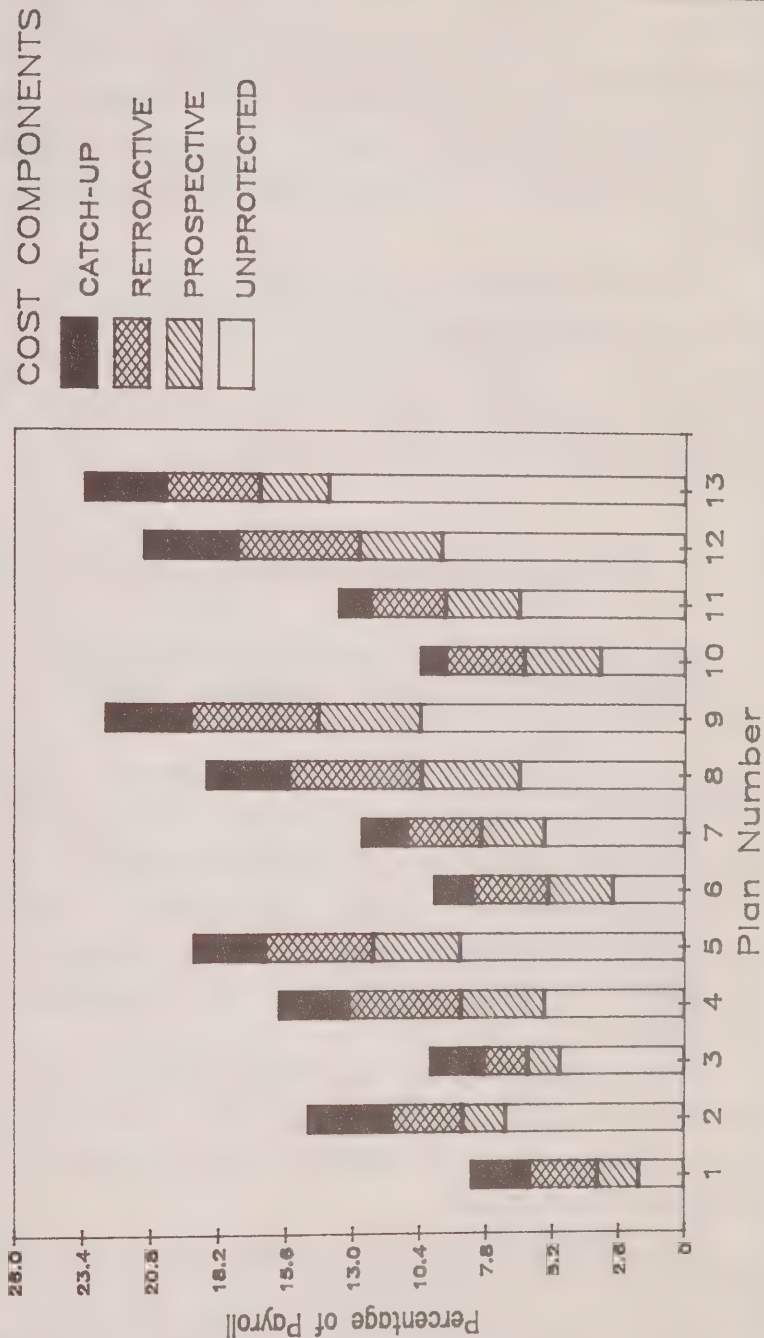


Table 3.9 summarizes the total increase in the longrun cost of the 13 pension plans assuming the seven generic inflation protection formula are applied retroactively as well as prospectively. The incremental cost of retroactivity for a particular plan can be derived by comparing its estimated post-inflation protection economic cost in Table 3.9 with the corresponding estimate in Table 3.8.

Table 3.10 summarizes the total increase in economic cost due to implementing prospective, retroactive and catch-up inflation protection. The incremental cost of catch-up retroactivity for a particular plan can be derived by comparing its estimated post-inflation protection economic cost in Table 3.10 with the corresponding estimate in Table 3.9.

IV RESULTS USING SENSITIVITY ASSUMPTIONS

A Prospective Inflation Protection Assuming Investment Returns and Earnings Growth Decline with Inflation

Figures 3.8, 3.9 and 3.10 illustrate the sensitivity of longrun economic cost estimates to the assumed level of longrun real investment returns and real earnings growth. The economic cost estimates for plans 2, 6 and 9 are calculated under the assumption that longrun real investment returns and longrun real earnings growth decline as longrun inflation rates increase. These assumptions characterized the 1986 Finance Canada cost study and have been summarized in Table 3.7.

Four features distinguish the economic value curves in Figures 3.8, 3.9 and 3.10 from their counterparts in Figures 3.1, 3.2 and 3.3. Each distinguishing feature originates from the different economic assumptions used to calculate the longrun cost estimates.

First, the estimated longrun economic cost for each plan at 0.0 per cent inflation is lower. For example, the economic value of the flat benefit plan is 9.15 per cent of payroll under the sensitivity assumptions versus 9.55 per cent under the best estimate assumptions. This lower cost is attributable to the assumed 1.5 per cent real growth rate in earnings which is 0.5 per cent less than the 2.0 per cent best estimate assumption. A lower assumed real earnings.

Figure 3.8

**Long Run Cost of Inflation Protection
Plan 2: Flat Benefit: FB/NC/60/100/70/0/M**
(No Retroactivity; Sensitivity Assumptions)

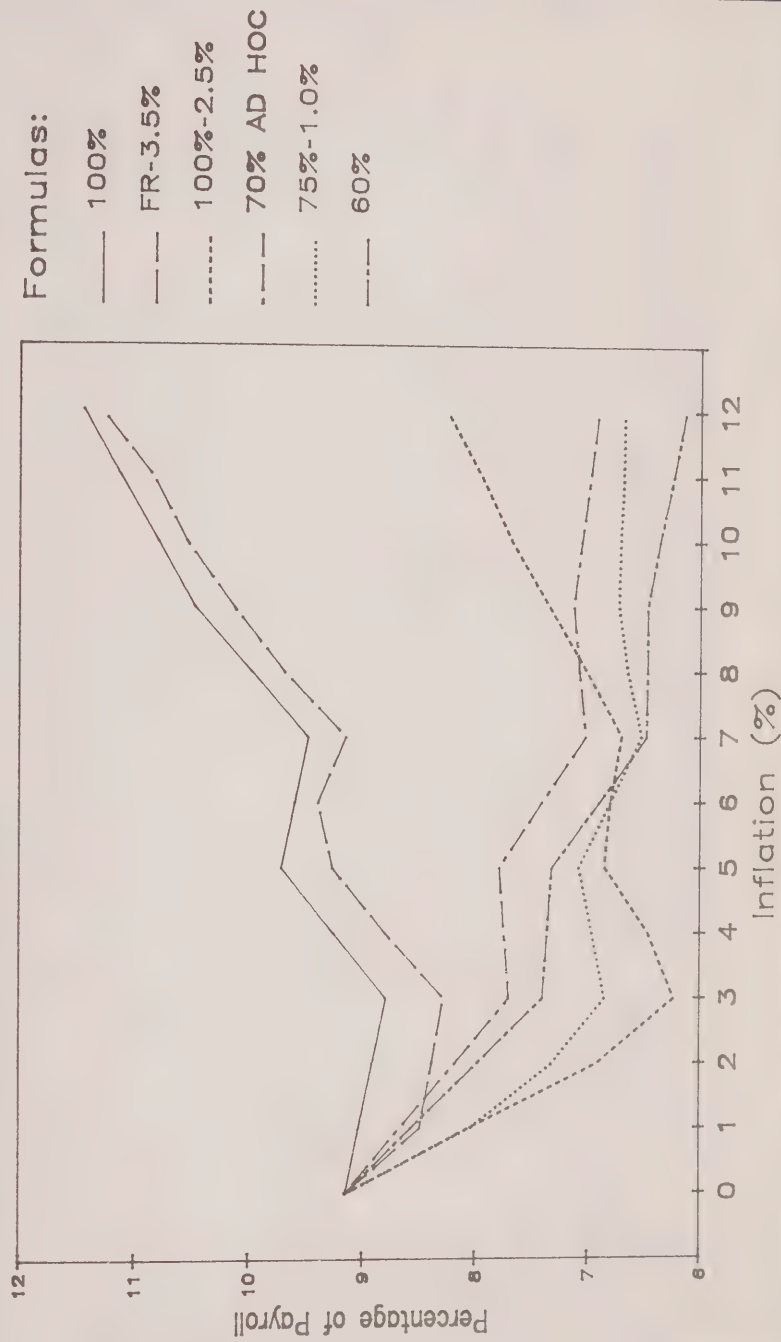


Figure 3.9

Long Run Cost of Inflation Protection
Plan 6: Career Average: CA/NC/65/100/0/0/A
(No Retroactivity; Sensitivity Assumptions)

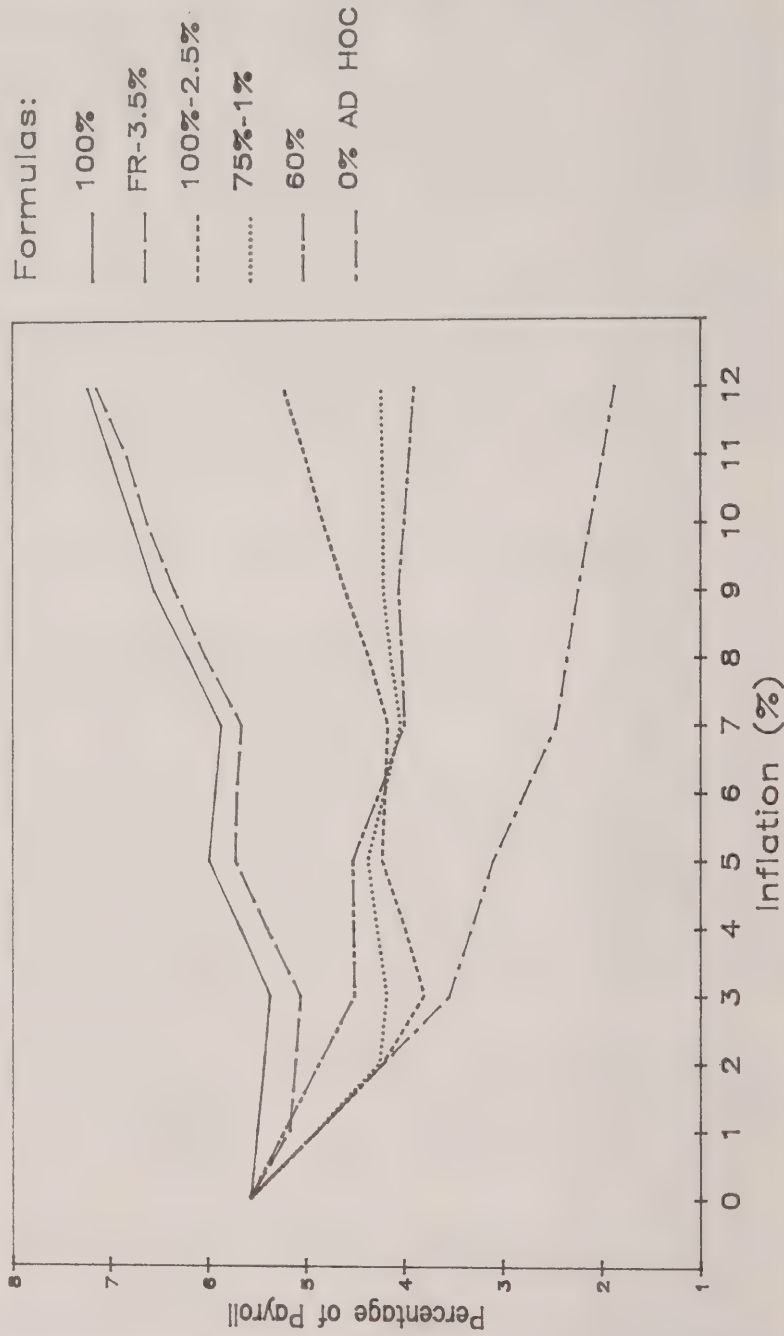
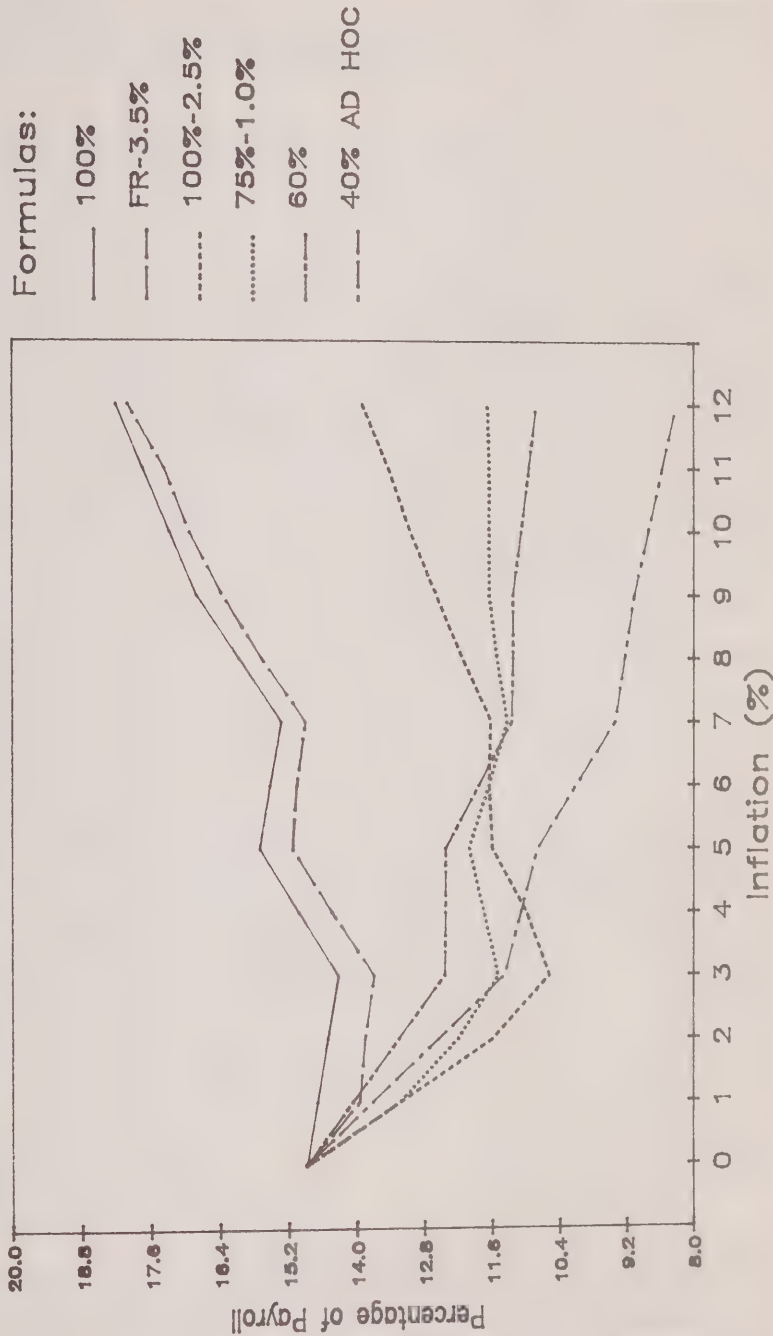


Figure 3.10

**Long Run Cost of Inflation Protection
Plan 9: Final Average: FA/C/60/100/40/0/A**

(No Retroactivity: Sensitivity Assumptions)



growth means a lower retirement pension and this translates into lower longrun costs. At 0.0 per cent longrun inflation real investment earnings are still assumed to be 3.0 per cent.

Second, the longrun costs under various degrees of inflation protection are less steep than those derived using the best estimate assumptions. Under three inflation formulas, 100% of CPI, FR-3.5% and (100% of CPI)-2.5%, the curves even slope upward as the assumed level of longrun inflation increases. This change in the shape of the longrun cost curves is a consequence of the assumption that both real longrun investment earnings and real longrun earnings growth decrease as longrun inflation increases. For example, at 9.0 per cent inflation the assumed real return to investment is 1.84 per cent and the assumed real earnings growth is 1.38 per cent. In contrast, the best estimate assumptions for real investment returns and earnings growth are maintained at 3.0 per cent and 2.0 per cent, respectively.

Third, the longrun cost curve under (75% of CPI)-1% inflation protection is arguably the 'flattest' of all the curves. However, under the best estimate assumptions the (100% of CPI)-2.5% formula provides the 'flattest' longrun cost curve. This indicates that the flatness or perceived stability of the (75% of CPI)-1% over changing levels of longrun inflation is not an inherent characteristic of the formula. It is the combined product of the formula's design and the underlying economic assumptions used to calculate the longrun cost estimates.

Fourth, the sensitivity assumptions produce 'bumpy' longrun cost curves, not smoother curves like those produced by the Subcommittee's best estimate assumptions. This 'bumpiness' is caused by the rate at which real investment returns and real earnings growth are assumed to decrease as longrun inflation increases. Smoother curves could be derived by adjusting slightly the assumed levels of longrun real investment return and longrun earnings growth at selected levels of longrun inflation.

The demonstrated sensitivity of longrun cost estimates to the selected economic assumptions emphasizes the importance of reviewing and understanding the implications of the economic assumptions used to estimate inflation protection costs. The longrun cost of an inflation protection formula is as dependent upon the economic environment within which the formula is expected to operate, as the design of the formula itself.

**B Prospective Inflation Protection Assuming
Higher/Lower Real Investment Returns**

Table 3.11 illustrates the impact of higher and lower longrun real investment returns on the incremental economic value of inflation protection. Plan 9 is used for the illustration.

The figures indicate that a higher longrun investment return lowers both the initial cost of the pension plan and the incremental cost of inflation protection. Conversely, a lower longrun real investment return raises both the initial cost and the incremental cost of inflation protection. For example, under the best estimate assumption of a 3.0 per cent real longrun investment return the pre-inflation protection longrun cost of Plan 9 is 10.38 per cent of payroll and the incremental cost of (75% of CPI) -1% inflation protection is 1.07 per cent of payroll. With a longrun investment return of 3.5 per cent, the initial value of Plan 9 declines to 9.07 per cent of payroll and the incremental cost of inflation protection is only 0.93 per cent of payroll. If the longrun real investment return is 2.5 per cent, plan 9 has an initial cost of 11.08 per cent of payroll and the incremental cost of inflation protection at (75% of CPI) -1% is 1.22 per cent of payroll.

This sensitivity analysis indicates that pension plans with lower real investment returns will be more affected by mandatory inflation protection than plans with higher investment earnings. If smaller pension plans earn lower real returns than larger plans, as suggested by some consultants, then smaller pension plans will face larger cost increases due to mandatory inflation protection than will larger plans.

**C Prospective Inflation Protection
Assuming Lower Real Earnings Growth**

Table 3.12 illustrates the impact of lower real earnings growth on the incremental economic value of inflation protection. Plan 9 is again used for the illustration.

The figures indicate that lower longrun real earnings lowers both the initial longrun cost of the pension plan and the incremental cost of inflation protection. For example, under the best estimate assumption of 2.0 per cent

real earnings growth Plan 9 has a longrun economic cost of 10.38 per cent of payroll, but under the assumption of 1.5 per cent real earnings growth, its longrun cost is 9.59 per cent of payroll. The incremental cost of (75% of CPI) -1% inflation protection is 1.07 per cent of payroll assuming 2.0 per cent real earnings growth and a lower 1.02 per cent assuming 1.5 per cent real earnings growth. The slightly higher 4.00 per cent incremental cost of 100% of CPI and equal 3.54 per cent incremental cost of Fund Rate-3.5% occur because of the interaction of the minimum employer contribution rule at higher levels of inflation protection.

This sensitivity analysis indicates that if future earnings growth is less than the 2.0 per cent rate assumed by the Actuarial Subcommittee, mandatory inflation protection will generally have a smaller impact of the incremental longrun costs.

TABLE 3.1
CHARACTERISTICS OF 13 'AVERAGE' PLANS

Plan Type	Employee Contribution	Benefit Accrual Rate	Normal Retirement Age	Pre- Termination Updates (% Earnings)	Post-Termination Updates (% CPI)		Plan Population
	Below/Above YMPE (% Earnings)	Below/Above YMPE (% Earnings)			Retireds	Deferreds	
Private Sector							
1 Flat Benefit	None	0.6/0.6	65	100(1)	0	0	Mature
2 Flat Benefit	None	1.2/1.2	60	100(1)	70	0	Mature
3 Career Average	3.3/5.0	1.3/2.0	65	0	0	0	Average
4 Career Average	3.3/5.0	1.3/2.0	65	100(1)	0	0	Average
5 Career Average	3.3/5.0	1.3/2.0	60	100(1)	40	0	Average
6 Career Average	None	0.8/1.5	65	100(1)	0	0	Average
7 Career Average	None	0.8/1.5	60	100(1)	40	0	Average
8 Final Average	3.3/5.0	1.3/2.0	65	100	0	0	Average
9 Final Average	3.3/5.0	1.3/2.0	60	100	40	0	Average
10 Final Average	None	0.8/1.5	65	100	0	0	Young
11 Final Average	None	0.8/1.5	60	100	40	0	Young
Public Sector							
12 Final Average	5.3/7.0	1.4/2.0	65	100	40	0	Average
13 Final Average	5.3/7.0	1.4/2.0	60	100	70	0	Average

(1) Targeted to 85% of final five-year average earnings. For example, if plan's accrual rate is 0.6%, member's pension after 35 years of service is 17.85%, not 21% of final five year average earnings (0.6 * 35* .85 = 17.85%). The 85% factor accounts for the possibility that some members will retire between upgrades and will not receive a pension fully related to their final average earnings.

TABLE 3.2

COVERAGE OF THIRTEEN 'AVERAGE' PLANS (1984)

	<u>Ontario Members</u>		<u>Ontario Plans</u>	
	<u>Number</u> (000s)	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>
<u>The 13 Plans</u>				
Flat Benefit	347	23.8	766	8.8
Career Average	229	15.7	1,988	22.7
Final Average	<u>724</u>	<u>49.6</u>	<u>1,927</u>	<u>22.0</u>
Total Covered	1,300	89.1	4,681	53.5
<u>Other Plans</u>				
Money Purchase	88	6.0	3,749	42.8
Residual	<u>71</u>	<u>4.9</u>	<u>322</u>	<u>3.7</u>
Total Not Covered	<u>159</u>	<u>10.9</u>	<u>4,071</u>	<u>46.5</u>
Total	<u>1,459</u>	<u>100.0</u>	<u>8,752</u>	<u>100.0</u>

Source: Statistics Canada

TABLE 3.3

STAGE I ECONOMIC AND ACTUARIAL ASSUMPTIONS

Economic Assumptions

			Best Estimates			
Inflation (%)	0.0	3.0	5.0	7.0	9.0	12.0
Real Investment Return (%)	3.0	3.0	3.0	3.0	3.0	3.0
Real Earnings (%)	2.0	2.0	2.0	2.0	2.0	2.0

Valuation Method

Unit credit, with projection where appropriate, prorated on service. This is the most common actuarial method used in Canada for statutory valuations of pension plans and is the method required under CICA and FASB accounting standards to estimate the accrual of pension benefits.

Revenue Canada Maximum

Revenue Canada maximum ignored. This recognizes that the current \$60,025 limit will be escalated, avoids artificially capping of pension liabilities and simplifies calculations.

Amortization of Unfunded Liabilities

Prior to the introduction of inflation protection, each plan is assumed to be 100% funded. Unfunded liabilities (UFL) emerging because of inflation protection are amortized over 15 years as a level-percentage-of-payroll. The 15 year amortization of UFL liabilities remains the standard under proposed new funding requirements and the level-percentage-of-payroll calculation, which will be available under proposed new funding requirements, avoids skewing of UFL payments in the first year. The 15 year period is, on average, comparable to amortization periods under accounting rules.

Termination, Retirement and Mortality Rates

Termination and retirement rates same as used by the Business Committee on Pension Policy. Retirement rates were for with non-indexed pension plans. Mortality rates are GAM 1983.

Plan Membership

Number, age, service,sex and earnings characteristics of active members are same as used by the Business Committee on Pension Policy. Earnings were updated to 1986. Additional data for retired and deferred members were added.

Liability Weightings for Average, Mature and Young Plan Populations

Average plan population assumed to have a liability weighting of 65% actives, 30% retirees and 5% deferreds. Mature population weighting is 40%, 55% and 5% respectively. Young population weighting is 80%, 15% and 5% respectively.

TABLE 3.4
ANNUALIZED REAL INVESTMENT RETURNS

<u>Period</u>	<u>SEI Median (%)</u>	<u>60% Stocks/ 40% Bonds (%)</u>	<u>50% Stocks/ 50% Bonds (%)</u>	<u>40% Stocks 60% Bonds (%)</u>
1936-85 (50 years)	N/A	4.04	3.45	2.84
1961-85 (25 years)	2.62	3.69	3.27	2.82
1976-85 (10 years)	5.81	6.59	6.06	5.48
Actuarial Subcommittee's best estimate of longrun real investment returns: 3.0%.				

Source: Report on Canadian Economic Statistics, 1924-85, Canadian Institute of Actuaries, June, 1986.

TABLE 3.5
ANNUALIZED REAL EARNINGS GROWTH AND INFLATION RATES

<u>Period</u>	<u>Real Earnings (%)</u>	<u>Inflation (%)</u>
1936-85 (50 years)	2.13	4.42
1961-85 (25 years)	1.63	5.79
1976-85 (10 years)	0.24	7.84
Actuarial Subcommittee's best estimate of longrun real earnings growth: 2.0%		
Actuarial Subcommittee's best estimate of longrun inflation: 5.0%		

Source: Report on Canadian Economic Statistics, 1924-85, Canadian Institute of Actuaries, June, 1986.

TABLE 3.6

ACTUARIAL SUBCOMMITTEE'S BEST ESTIMATES COMPARED TO ASSUMPTIONS OF
FOUR PREVIOUS PENSION REFORM STUDIES

<u>Study</u>	<u>Real Investment Return</u> (%)	<u>Real Earnings Growth</u> (%)	<u>Inflation</u> (%)
Lazar Study	3.50	2.00	3.00
Green Paper	3.50	2.00	3.00
BCPP Study	2.50	1.50	6.00
Ontario White Paper	2.50	1.50	6.00
Actuarial Subcommittee	3.00	2.00	5.00

TABLE 3.7

SENSITIVITY ECONOMIC ASSUMPTIONS

<u>Real Investment Returns and Earnings Growth Decline with Inflation</u>						
Inflation (%)	0.00	3.00	5.00	7.00	9.00	12.00
Real Investment Return (%)	3.00	2.91	2.38	2.34	1.84	1.34
Real Earnings Growth (%)	1.50	1.46	1.43	1.40	1.38	1.34

<u>Lower/Higher Real Investment Return and Lower Real Earnings Growth</u>					
Inflation (%)	5.00	5.00	5.00	5.00	5.00
Real Investment Return (%)	3.50	2.50	3.50	2.50	3.00
Real Earnings Growth (%)	2.00	2.00	1.50	1.50	1.50

TABLE 3.8

STAGE I SUMMARY PLAN RESULTS

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
1 FB/NC/65 100/0/0	1) 1.79 2) 3.42 3) 91.06	1.79 2.60 45.25	1.79 2.51 40.22	1.79 2.43 35.75	1.79 2.83 58.10	1.79 3.27 82.68	1.79 2.07 15.64	Economic CPI 5 Interest 3 Payroll 2
2 FB/NC/60 100/70/0	1) 7.04 2) 8.70 3) 23.58	7.04 7.04 0.00	7.04 7.04 0.00	7.04 7.04 0.00	7.04 7.21 2.41	7.04 8.31 18.04	7.04 7.04 0.00	No Retroactivity
3 CA/C/65 0/0/0	1) 4.91 2) 6.16 3) 25.46	4.91 5.52 12.42	4.91 5.45 11.00	4.91 5.39 9.78	4.91 5.70 16.09	4.91 6.04 23.01	4.91 5.11 4.07	
4 CA/C/65 100/0/0	1) 5.52 2) 8.78 3) 59.06	5.52 7.36 33.33	5.52 7.12 28.99	5.52 6.89 24.82	5.52 7.92 43.48	5.52 8.56 55.07	5.52 6.04 9.42	
5 CA/C/60 100/40/0	1) 8.82 2) 12.20 3) 38.32	8.82 10.04 13.83	8.82 9.73 10.32	8.82 9.43 6.92	8.82 10.80 22.45	8.82 11.83 34.13	8.82 8.82 0.00	1) Pre-Inflation Protection cost 2) Post-Inflation Protection cost 3) Percent Increase
6 CA/NC/65 100/0/0	1) 2.83 2) 5.36 3) 89.40	2.83 4.08 44.17	2.83 3.96 39.93	2.83 3.83 35.34	2.83 4.44 56.89	2.83 5.12 80.92	2.83 3.26 15.19	Costs expressed as % of payroll
7 CA/NC/60 100/40/0	1) 5.53 2) 7.99 3) 44.48	5.53 6.28 13.56	5.53 6.09 10.13	5.53 5.90 6.69	5.53 6.78 22.60	5.53 7.68 38.88	5.53 5.53 0.00	Increased cost includes UFL amortization
8 FA/C/65 100/0/0	1) 6.50 2) 10.33 3) 58.92	6.50 8.66 33.23	6.50 8.38 28.92	6.50 8.10 24.62	6.50 9.32 43.38	6.50 10.07 54.92	6.50 7.10 9.23	
9 FA/C/60 100/40/0	1) 10.38 2) 14.35 3) 38.25	10.38 11.81 13.78	10.38 11.45 10.31	10.38 11.09 6.84	10.38 12.70 22.35	10.38 13.92 34.10	10.38 10.38 0.00	
10 FA/NC/65 100/0/0	1) 3.33 2) 6.31 3) 89.49	3.33 4.80 44.14	3.33 4.65 39.64	3.33 4.51 35.44	3.33 5.22 56.76	3.33 6.03 81.08	3.33 3.84 15.32	

(Continued on following page).

TABLE 3.8 (Continued...)

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
11 FA/NC/60	1)	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0	2)	9.40	7.38	7.17	6.95	7.98	9.03	
	3)	44.39	13.36	10.14	6.76	22.58	38.71	0.00
12 FAP/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0	2)	12.76	10.43	10.21	9.99	11.05	12.32	
	3)	33.47	9.10	6.80	4.50	15.59	28.87	0.00
13 FAP/C/60	1)	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0	2)	16.62	13.96	13.96	13.96	14.23	16.00	
	3)	19.05	0.00	0.00	0.00	1.93	14.61	0.00

TABLE 3.9

STAGE I SUMMARY PLAN RESULTS

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
1 FB/NC/65 1)	1.79	1.79	1.79	1.79	1.79	1.79	1.79	Economic CPI Interest Payroll 5 3 2
100/0/0 2)	6.09	4.00	3.79	3.58	4.57	5.70	2.59	
3)	240.22	123.46	111.73	100.00	155.31	218.44	44.69	
2 FB/NC/60 1)	7.04	7.04	7.04	7.04	7.04	7.04	7.04	Retroactivity
100/70/0 2)	11.50	7.24	7.24	7.24	7.67	10.50	7.24	
3)	63.35	2.84	2.84	2.84	8.95	49.15	2.84	
3 CA/C/65 1)	4.91	4.91	4.91	4.91	4.91	4.91	4.91	
0/0/0 2)	7.88	6.43	6.29	6.15	6.84	7.61	5.46	
3)	60.49	30.96	28.11	25.25	39.31	54.99	11.20	
4 CA/C/65 1)	5.52	5.52	5.52	5.52	5.52	5.52	5.52	
100/0/0 2)	13.18	9.79	9.29	8.79	11.03	12.63	6.83	
3)	138.77	77.36	68.30	59.24	99.82	128.80	23.73	
5 CA/C/60 1)	8.82	8.82	8.82	8.82	8.82	8.82	8.82	1) Pre-Inflation Protection cost
100/40/0 2)	16.42	11.45	10.81	10.18	13.10	15.55	8.90	2) Post-Inflation Protection cost
3)	86.17	29.82	22.56	15.42	48.53	76.30	0.91	3) Percent increase
6 CA/NC/65 1)	2.83	2.83	2.83	2.83	2.83	2.83	2.83	Costs expressed as % of payroll
100/0/0 2)	8.35	5.57	5.32	5.05	6.32	7.82	3.81	
3)	195.05	96.82	87.99	78.45	123.32	176.33	34.63	
7 CA/NC/60 1)	5.53	5.53	5.53	5.53	5.53	5.53	5.53	Increased cost includes UFL amortization
100/40/0 2)	10.89	7.13	6.74	6.35	8.19	10.19	5.58	
3)	96.93	28.93	21.88	14.83	48.10	84.27	0.90	
8 FA/C/65 1)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
100/0/0 2)	15.51	11.52	10.93	10.34	12.98	14.86	8.03	
3)	138.62	77.23	68.15	59.08	99.69	128.62	23.54	
9 FA/C/60 1)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	
100/40/0 2)	19.31	13.47	12.72	11.97	15.40	18.29	10.47	
3)	86.03	29.77	22.54	15.32	48.36	76.20	0.87	
10 FA/NC/65 1)	3.33	3.33	3.33	3.33	3.33	3.33	3.33	
100/0/0 2)	9.40	6.29	6.01	5.74	7.11	8.81	4.39	
3)	182.28	88.89	80.48	72.37	113.51	164.56	31.83	

(Continued on the following page).

TABLE 3.9 (Continued...)

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
11 FA/NC/60	1) 6.51	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0	2) 12.35	8.22	7.82	7.40	9.39	11.58	6.56	
	3) 89.71	26.27	20.12	13.67	44.24	77.88	0.77	
12 FAP/C/65	1) 9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0	2) 17.49	11.91	11.36	10.80	13.45	16.45	9.71	
	3) 82.95	24.58	18.83	12.97	40.69	72.07	1.57	
13 FAP/C/60	1) 13.96	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0	2) 20.27	14.19	14.19	14.19	14.80	18.85	14.19	
	3) 45.20	1.65	1.65	1.65	6.02	35.03	1.65	

TABLE 3.10

STAGE I SUMMARY PLAN RESULTS

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
1 FB/NC/65 100/0/0	1) 1.79 2) 8.42 3) 370.39	1.79 5.24 192.74	1.79 5.06 182.68	1.79 4.95 176.54	1.79 5.83 225.70	1.79 7.90 341.34	1.79 3.58 100.0	Economic CPI 5 Interest 3 Payroll 2
2 FB/NC/60 100/70/0	1) 7.04 2) 14.78 3) 109.94	7.04 7.92 12.50	7.04 7.92 12.50	7.04 7.92 12.50	7.04 8.38 19.03	7.04 13.41 90.48	7.04 7.92 12.50	Retroactivity with Catch-Up
3 CA/C/65 0/0/0	1) 4.91 2) 10.01 3) 103.87	4.91 7.45 51.73	4.91 7.34 49.49	4.91 7.29 48.47	4.91 7.89 60.69	4.91 9.59 95.32	4.91 6.29 28.11	
4 CA/C/65 100/0/0	1) 5.52 2) 15.90 3) 188.04	5.52 11.09 100.91	5.52 10.63 92.57	5.52 10.24 85.51	5.52 12.37 124.09	5.52 15.15 174.46	5.52 7.89 42.93	
5 CA/C/60 100/40/0	1) 8.82 2) 19.19 3) 117.57	8.82 12.35 40.02	8.82 11.79 33.67	8.82 11.39 29.14	8.82 13.98 58.50	8.82 18.08 104.99	8.82 9.54 8.16	1) Pre-Inflation Protection cost 2) Post-Inflation Protection cost 3) Percent increase
6 CA/NC/65 100/0/0	1) 2.83 2) 9.87 3) 248.76	2.83 6.33 123.67	2.83 6.10 115.55	2.83 5.89 108.13	2.83 7.10 150.88	2.83 9.24 226.50	2.83 4.41 55.83	Costs expressed as % of payroll
7 CA/NC/60 100/40/0	1) 5.53 2) 12.70 3) 129.66	5.53 7.77 40.51	5.53 7.43 34.36	5.53 7.19 30.02	5.53 8.82 59.49	5.53 11.86 114.47	5.53 6.01 8.68	Increased cost includes UFL amortized
8 FA/C/65 100/0/0	1) 6.50 2) 18.71 3) 187.85	6.50 13.05 100.77	6.50 12.50 92.31	6.50 12.05 85.38	6.50 14.56 124.00	6.50 17.83 174.31	6.50 9.28 42.77	
9 FA/C/60 100/40/0	1) 10.38 2) 22.57 3) 117.44	10.38 14.52 39.88	10.38 13.87 33.62	10.38 13.40 29.09	10.38 16.43 58.29	10.38 21.26 104.82	10.38 11.23 8.19	
10 FA/NC/65 100/0/0	1) 3.33 2) 10.42 3) 212.91	3.33 6.76 103.00	3.33 6.48 94.59	3.33 6.24 87.39	3.33 7.61 128.53	3.33 9.75 192.79	3.33 4.73 42.04	

(Continued on following page).

TABLE 3.10 (Continued...)

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y% -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
11 FA/NC/60 1)	6.51	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0 2)	13.60	8.68	8.31	7.97	9.85	12.73	6.88	
3)	108.91	33.33	27.65	22.43	51.31	95.55	5.68	
12 FAP/C/65 1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0 2)	21.12	13.17	12.64	12.21	14.83	19.78	10.35	
3)	120.92	37.76	32.22	27.72	55.13	106.90	8.26	
13 FAP/C/60 1)	13.96	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0 2)	23.37	14.99	14.99	14.99	15.66	21.60	14.99	
3)	67.41	7.38	7.38	7.38	12.18	54.73	7.38	

TABLE 3.11

IMPACT OF HIGHER /LOWER INVESTMENT RETURNS ON THE ECONOMIC VALUE OF INFLATION PROTECTION

PLAN 2: FA/C/60/100/40/0/0

	<u>Best Estimate</u>	<u>Higher Return</u>	<u>Lower Return</u>
Interest (%)	3.0	3.5	2.5
Earnings (%)	2.0	2.0	2.0
Inflation(%)	5.0	5.0	5.0
Pre-Inflation Protection Longrun Cost (% of Payroll)	10.38	9.07	11.08
<u>Incremental Cost of</u> (% of Payroll)			
100% of CPI	3.97	3.54	4.96
60% of CPI	1.43	1.24	1.63
(75% of CPI) -1%	1.07	0.93	1.22
(100% of CPI)- 2.5%	0.71	0.62	0.81
FR - 3.5%	3.54	3.15	4.37
FR - 7.0%	0.00	0.00	0.00

TABLE 3. 12

IMPACT OF LOWER EARNINGS GROWTH ON THE ECONOMIC VALUE OF INFLATION PROTECTION

PLAN 9: FA/C/60/100/40/0/0

	<u>Best Estimate</u>	<u>Lower Earnings</u>
Interest (%)	3.0	3.0
Earnings (%)	2.0	1.5
Inflation (%)	5.0	5.0
Pre-Inflation Protection	10.38	9.59
Longrun Cost (% of Payroll)		
<u>Incremental Value of</u> (% of Payroll)		
100% of CPI	3.97	4.00
60% of CPI	1.43	1.36
(75% of CPI)-1%	1.07	1.02
(100% of CPI)-2.5%	0.71	0.68
FR - 3.5%	3.54	3.54
FR - 7.0%	0.00	0.00

Stage II Methodology and Analysis

I METHODOLOGY AND SELECTION OF PLANS

A First-Year Operating Cost Estimates

Stage II estimates first-year operating costs that alternative inflation protection formulas would impose on 22 actual Ontario pension plans. Previous reform studies have not estimated the increased cost of implementing inflation protection in actual pension plans. They relied on longrun economic value estimates calculated for hypothetical ‘average’ plans based on the methodology used in Stage I. While economic value estimates are useful measures of the underlying longrun cost of inflation protection, they do not capture the shortrun operating cost increases faced by actual pension plans. Operating cost increases will vary widely among plans because of differences in benefit design, funded status, funding methods, economic assumptions, ancillary benefits, demographics and inflation protection practices. The Actuarial Subcommittee originally intended to provide the Task Force with operating cost estimates for 24 pension plans; however, data limitations permitted operating costs to be estimated for only 22 plans.

Two operating cost measures are estimated:

- funding cost to meet PBA regulations and CIA requirements;
and
- expensing cost to meet CICA and FASB accounting requirements.

Pension plans are subject to both funding and accounting requirements and it is unlikely that pension funding costs will equal pension expensing costs. The former directly affects a plan sponsor’s cashflow and taxable income and the latter affects the plan sponsor’s financial statements. Cashflow and financial statements are fundamental to operation of any corporation.

Expensing cost estimates are not presented for all plans. Four of the 22 plans are drawn from Ontario public sector and they are currently exempt from the new CICA requirements. Two other plans are multi-employer and the CICA requirements specify that participating employers expense their actual contributions to the plan.

B Selection of Plans

Five criteria governed the Actuarial Subcommittee's selection of the 22-plan sample. First, each plan must be an actual plan operating in Ontario, not a representation of a hypothetical 'average' plan. In practical terms this meant not only the collection of detailed data regarding current plan design, demographic characteristics and actuarial basis, but also information about each plan's ad hoc updates for retired and deferred plan members.

Second, the final sample must be reasonably representative of the Ontario pension plan universe. The 'reasonableness' of the final sample would be assessed by the three actuarial consulting firms represented on the Actuarial Subcommittee and the sample's linkage to the various plan categories defined in Stage I.

Third, plan sponsors and/or their actuarial consultants must be willing to provide the necessary data to the Task Force. Plan sponsors and consultants have been generous with their time and resources.

Fourth, each plan in the sample would remain anonymous. To achieve this goal, the data was collected such that the identity of the plans were unknown to the Task Force and the Actuarial Subcommittee. Plans are identified by their assigned code numbers and their plan type.

Fifth, the sample size must be manageable in order to control cost and meet the Task Force's timetable.

If they wished, the sponsors of the sample plans would receive copies of various working papers examining the estimated cost of various inflation protection formulas applied to their plans. The working papers would be provided to the sponsors on the understanding that they would be used for internal information only.

With the criteria established, the Actuarial Subcommittee collected summary data on 51 Ontario pension plans from six consulting firms: Eckler Partners Ltd.; Martin E. Segal Company; T P F & C; Turnbull & Turnbull; William M. Mercer Limited; and Wyatt Company.

From the 51 initial plans, the Actuarial Subcommittee selected a sample of 22. The overall objective was to select pension plans which would exhibit high, medium and low cost increases with the introduction of mandatory inflation protection. Eight factors were considered in choosing from the initial 51 plans:

Plan Type	Demographic Characteristics
Valuation Assumptions	Funded Status
Industry	Ad Hoc Practices
Membership Size	Early Retirement Benefits

C **Characteristics of 22 Plan Sample**

Table 4.1 summarizes the principal characteristics of the final 22 plan sample. While the 22 plan sample is small and does have limitations, the Actuarial Subcommittee and the Statistics Canada representative on the Task Force share the opinion that it is broadly representative of the Ontario defined benefit pension plan universe. As will be noted below, the under-representation of small defined benefit pension plans, those with less than 500 active members, is probably the sample's most significant limitation. This limitation must be recognized when assessing the results of the Stage II analysis and drawing conclusions about the cost and impact of mandatory inflation protection.

Coverage of Ontario Defined Benefit Pension Plan Members:

Table 4.1 indicates that the 22 sample plans have 214,787 active members which represent about 15 per cent of active members participating in Ontario pension plans in 1984. The flat benefit plans have 26,038 members which is 7.5 per cent of active members in Ontario flat benefit plans. The corresponding figures

for career and final average plans are 4.7 per cent and 23.6 per cent respectively.

One plan submitted to the Task Force for analysis did not fit into the seven pre-established categories. The plan, noted in Table 4.1 as a single employer combined final average and flat benefit plan, embodies both flat rate and final average benefits. The plan's current active membership of 7,431 represents 3.5 per cent of the 214,787 active members in the 22 plan sample.

Coverage by Plan Size:

The largest Stage II plan has over 78,000 active members and the smallest has 71 members. Only three plans or 13 per cent of the sample have fewer than 500 members. However, in 1984, 95 per cent of Canada's 17,711 pension plans had less than 500 members and a similar pattern undoubtedly applies to Ontario. This suggests that the 22 plan sample may under-represent small defined benefit pension plans. The degree of under-representation of small defined benefit pension plans is probably moderated by the fact that 9,030 or 51 per cent of the 17,711 plans were defined contribution plans which generally have small memberships.

Coverage by Implicit Inflation Protection Policies:

The Actuarial Subcommittee estimated the implicit inflation protection policy being followed by each pension plan. This was accomplished by assessing the summary data submitted with each plan and, in some cases, additional information received during follow-up discussions with plan actuaries. It is emphasized that estimated inflation protection policies are rough characterizations of past and expected future plan practices.

Seven of the 22 plans have been characterized as providing 0% inflation protection. One of these plans is a public sector plan. Five plans provide inflation protection at 20% to 40% of CPI and another eight plans provide inflation protection at 50% to 70% of CPI. Only one plan, a public sector plan, provides inflation protection at 100% of CPI.

Coverage by Degree of Funding:

On a going concern actuarial basis, nine of the 22 Stage II plans were less than 100 per cent funded with funding ratios ranging from a low of 0.60 to 0.99. Each of the single employer flat benefit plans was less than fully funded. Of the 13 plans which were more than 100 per cent funded, nine had funding ratios of at least 1.10. Plan number 13, a private sector contributory final average plan, had the highest funded ratio at 1.32. Funded ratios were derived from the submitted actuarial reports.

Coverage by Industry:

The last column of Table 4.1 provides the industrial description submitted with by each plan. Among the private sector plans seven are described as being in the manufacturing sector of which two are in the automotive sector and another two in the steel sector. Four plans describe themselves as being in the food sector, two in the construction sector and one plan each in the communication, electronics, insurance and mining sectors. Of the four public sector plans, three provide government services and one provides educational services.

II STANDARDIZED FUNDING AND EXPENSING ASSUMPTIONS

A Derivation of Standardized Assumptions

To estimate the operating cost of inflation protection, it was necessary for the Actuarial Subcommittee to select a single set of 'conservative' economic assumptions for funding, and a single set of 'best estimate' economic assumptions for expensing. The chosen assumptions are important because, as demonstrated in Stage I, they are key variables affecting the estimated operating cost of inflation protection. The selected assumptions are also subject to scrutiny and debate, because to a large extent they will determine the 'affordability' of inflation protection.

The present economic assumptions, or funding valuation bases used by each of the Stage II plans have evolved differently, embody a host of influences that differ from plan to plan and serve a variety of objectives. It is not possible for the Actuarial Subcommittee to anticipate how each plan's funding valuation basis will change in response to inflation protection.

However, the Actuarial Subcommittee believes that the 'best estimate' valuation basis required under the new CICA accounting requirements will become, for most pension plans, the reference point for selecting a 'conservative' funding valuation basis. It is expected that the CIA standards of practice and the pension regulatory authorities will ensure that funding assumptions will generally be conservative relative to the required CICA basis. With this expectation of how funding and expensing valuation bases will evolve in the future, the Actuarial Subcommittee has used the same 'best estimate' and 'conservative' valuation bases for each Stage II pension plan.

Table 4.2 summarizes the major assumptions underlying the calculation of Stage II cost estimates including the two valuation bases. The expensing basis is the Actuarial Subcommittee's 'best estimate' for longrun inflation, real investment returns and real earnings growth developed in Stage I. The funding basis is conservative relative to the 'best estimate' assumptions.

Operating costs have been estimated using to the fullest extent possible the detailed data submitted for each of the 22 plans. For a number of plans it was necessary to compress population data, or simplify complex benefit features or approximate particularly detailed actuarial calculations. The Actuarial Subcommittee believes that these necessary adjustments still permit the calculation of representative estimates of the impact inflation protection will have on operating costs of the selected pension plans.

B Interpretation and Use of Standardized Funding Basis

The Stage II standardized 'conservative' economic funding basis contains a minimum safety margin to satisfy PBA funding requirements and CIA professional standards of practice. By using this valuation basis the cost of mandatory inflation protection can be estimated without the influence of any additional

funding margins that may be in a pension plan's present funding basis. This permits the estimation of maximum increases in funding costs due to the introduction of mandatory inflation protection.

Once the maximum funding cost increases have been estimated, they can then be reduced to reflect the value of the implicit inflation protection policy being followed by the pension plan. If there is no implicit policy to increase pensions to compensate for inflation, then there is no offset against the estimated maximum funding cost increase.

Many pension plans which have a policy of updating pensions for inflation prefund these planned updates by introducing additional conservative margins in their valuation assumptions. As will be seen when Stage II costs are analyzed, these plans will face the lowest increase in funding costs when mandatory inflation protection is introduced.

While prefunding of ad hoc updates is a principal motive for introducing additional conservative margins into funding assumptions, many plans also use conservative funding assumptions without having any intention of updating pensions for inflation. Additional margins could be incorporated to prefund enrichments to a plan's benefit structure such as benefit upgrades in flat benefit and career average plans or early retirement benefits. They could also be part of a strategy to minimize corporate taxes. Margins are increased during profitable years to maximize tax deductible pension contributions and reduced during unprofitable years to minimize non-tax deductible contributions. Further, additional margins may be used to prefund the increase in liabilities that will emerge in many plans when Revenue Canada's \$60,025 maximum pension limit is escalated. This motivation is particularly strong among final average pension plans, especially those whose memberships have high average earnings.

While conservative funding assumptions do not necessarily signify the prefunding of ad hoc updates, neither does the absence of conservative assumptions necessarily signify that a pension plan does not have a policy of updating pensions for inflation. It may simply mean that any planned updates are not being funded in advance. Plan sponsors can fund these ad hoc increases directly from their operating revenue. This is usually achieved by the sponsor making additional payments to the plan to amortize an unfunded liability created when ad hoc increases in benefits are granted. This method of funding updates is

often characteristic of a pension plan that is in a highly competitive economic sector and its sponsor is minimizing operating costs. As will be seen when Stage II cost estimates are analyzed, these plans face the largest funding cost increases due to mandatory inflation protection.

C Estimating Maximum and Potential Costs of Inflation Protection

The procedure for estimating funding and expensing cost of inflation protection can be summarized as follows:

Funding:

1. Pre-pension reform funding costs for each plan were derived from its submitted actuarial report. Any unfunded liability or surplus was amortized over 15 years as a level percentage of payroll. Negative unfunded liability payments indicate the amortization of a surplus.
2. Post-pension reform funding costs (excluding inflation protection) for each plan were estimated using the standardized funding assumptions. Pension reforms are assumed to be adopted retroactive-ly. For 22 Stage II plans, post-pension reform funding costs were estimated assuming no prefunding of ad hoc inflation protection. Because plan 19 explicitly provides and prefunds inflation protection, its post-pension reform cost was estimated assuming the specified level of inflation protection is prefunded.
3. Funding cost increases due to the introduction of both prospective and retroactive mandatory inflation protection were estimated for each plan. Because the standardized funding assumptions are stripped of margins for prefunding of implicit inflation protection policies, the funding cost increases calculated in Step 3 can be interpreted as being the 'maximum' increases.

4. The value of the estimated implicit inflation protection policy followed by each plan was used to offset the estimated maximum funding cost increase calculated in Step 3. This produces a lower first-year funding cost for inflation protection for those plans which provide ad hoc updates.

Expensing:

1. Post-pension reform expensing costs, excluding inflation protection, for each plan were estimated using the standardized expensing assumptions. Pension reforms are assumed to be adopted retroactively. Post-pension reform expensing costs were estimated assuming no commitment to regular inflation protection.
2. Expensing cost increases due to the introduction of both prospective and retroactive inflation protection were estimated for each plan. The expensing cost estimates calculated in Step 2 can be interpreted as being the maximum increase.
3. The value of the estimated implicit inflation protection policy followed by each plan was used to offset the estimated maximum expensing cost increase calculated in Step 2. This produces a lower first-year expensing cost for those plans which explicitly include in their expensing cost estimates the value of their implicit commitment to inflation protection.

III RESULTS

A First-Year Funding Cost Estimates with (75% of CPI)-1%

The first-year funding cost estimates for the (75% of CPI) -1% inflation protection formula applied prospectively and retroactively to Stage II pension plans are

shown in Table 4.3. The main differences in characteristics between the plans are shown in Table 4.4.

Prospective Inflation Protection Only:

The estimated maximum increase in current service cost due to prospective inflation protection at (75% of CPI) -1% ranges from a high of 3.86 per cent of payroll for plan 17 to a low of zero for plan 19. The average increase across the 22 plans is 1.44 per cent of payroll.

The wide variation in the estimated maximum cost increases is attributable to the different benefit and demographic characteristics of each plan shown in Table 4.4. For example, the 3.86 per cent maximum increase for plan 17 in Table 4.3 is attributable to the combined influence of a relatively high benefit accrual rate (1.45%), a low normal retirement age (60), and a high proportion of females (who have a longer life expectancy than males) in the plan population (64%). In contrast, plan 19 avoids any cost increase because it already prefunds inflation protection at an estimated 55% of the assumed long-run inflation rate of 4.5 per cent, while the (75% of CPI) -1% formula provides about 52% inflation protection.

Some of these plans already have implicit inflation protection policies. Adjusting the estimated maximum funding cost increases by the value of these policies produces 'potentially' lower first-year funding cost increases for 14 of the 22 plans. For example, plan 17 has an implicit policy of 60% inflation protection, which has an estimated value of 4.46 per cent of payroll. This more than offsets the 3.86 per cent maximum increase due to the (75% of CPI) -1% formula and potentially eliminates the cost increase. Plan 13 has an implicit inflation protection policy of 40%, which results in a 'potential' cost increase of only 0.59 per cent of payroll compared to its maximum cost increase of 2.07 per cent of payroll. For those plans which do not provide inflation protection, the maximum and potential cost increases are the same. The average potential cost increase across the 22 Stage II plans is 0.44 per cent of payroll, which is only about 30 per cent of the average maximum cost increase of 1.44 per cent of payroll.

It is important to note that the lower potential funding costs due to the recognition of implicit inflation protection policies do not necessarily translate into lower actual funding costs. Whether or not this reduction appears depends on how the implicit inflation protection for the current service of active plan members is being financed. Only if it is being prefunded by the use of conservative economic assumptions will a plan's actual increase under mandatory inflation protection equal the potential cost. However, if the implicit inflation protection is not being prefunded but is being financed by the establishment of unfunded liabilities when increases are granted, the plan's actual funding cost increase will equal the estimated maximum increase.

Retroactive Inflation Protection:

The retroactive cost estimates in Table 4.3 include the amortization of increased liabilities due to retroactive inflation protection plus the cost of prospective inflation protection. First-year maximum total funding costs for retroactive inflation protection range from a high of 9.84 per cent of payroll for plan 18 to a low of zero for plan 19. The average increase in maximum total funding cost across the plans is 3.80 per cent of payroll. The selection of a longer/shorter amortization period would decrease/increase the retroactive component of the total funding cost increase.

Again, the wide variation in cost estimates is attributable to the plans' differing benefit and demographic characteristics. For example, the maximum total funding increase of 9.84 per cent for plan 18 arises from the combined influence of a relatively high benefit accrual rate (1.58%), relatively high average years of service (27.4), and a relatively high proportion of liabilities for retired and deferred plan members (43%). This 9.84 per cent of payroll increase is composed of a 2.08 per cent current service cost and a 7.76 per cent cost to amortize increased past service liabilities imposed by retroactivity.

As with prospective inflation protection, adjusting the estimated maximum total increase in first-year funding costs by the value of implicit inflation policies followed by the various plans produces potentially lower cost increases. For example, plan 12 has an implicit policy of 50% inflation protection. When the value of this policy is applied to both future and past service, it produces a

potentially lower first-year total funding cost increase of 0.50 per cent of payroll. Across the Stage II plans the potential first-year total cost increase for retroactive protection ranges from a high of 9.84 per cent of payroll to a low of zero, while the average potential cost increase is 1.29 per cent of payroll.

Again, only if a plan's implicit inflation protection is being prefunded by the use of conservative economic assumptions will the actual increase equal the lower potential cost increase. Otherwise the plan will face the estimated maximum.

B First-year Expensing Cost Estimates for (75% of CPI) -1%

Table 4.3 also presents first-year prospective and retroactive expensing cost estimates for the 16 Stage II pension plans to which the new CICA/FASB requirements apply. These expensing cost estimates can be analyzed and interpreted in the same manner as the funding cost estimates.

Prospective Inflation Protection:

The maximum increase in pension expense for prospective inflation protection ranges from a high of 3.92 per cent of payroll for plan 17 to a low of 0.19 per cent for plan 4, while the average increase in pension expense for the plans affected by the new accounting rules is 1.56 per cent of payroll. This is about 10 per cent higher than the average maximum funding cost increase for the same group of plans. As with the funding cost estimates, the wide variation in pension expensing estimates is attributable to differences in plan characteristics.

Although the expensing costs of implicit inflation protection policies followed by the Stage II plans have been calculated and their potential impact summarized in Table 4.3, these amounts will probably not offset the estimated maximum expensing costs. Few plan sponsors now incorporate in their pension expensing cost estimates the impact of implicit inflation protection policies because they have not made a formal commitment to these policies. However, mandatory inflation protection means they will be legally bound to a minimum level of

inflation protection, and this minimum will have to be embodied in expensing cost estimates. Most plan sponsors affected by the new accounting rules will face maximum pension expensing cost increases similar to those estimated for the Stage II plans.

Retroactive Inflation Protection:

The retroactive implementation of the (75% of CPI) -1% formula produces a maximum expensing cost increase ranging from a high of 16.33 per cent of payroll for plan 17 to a low of 0.74 per cent of payroll for plan 4. The average increase across the plans is 6.73 per cent of payroll. Again, the wide variation in expensing cost increases results from differences between the plans.

The 6.73 per cent average increase in expensing cost is about 75 per cent higher than the average funding cost increase for the same set of plans. This marked difference is attributable principally to the different amortization methods used for funding and expensing. Funding estimates amortize increased past service liabilities due to retroactivity as a level percentage of payroll. In contrast, expensing estimates amortize increased liabilities on a straight-line method, which produces higher first-year amortization costs than the former.

Table 4.3 presents the potentially lower expensing cost increases that various Stage II plans will face in the unlikely event that they currently incorporate the value of their implicit inflation protection policies in pension expense estimates.

Although first-year cost estimates for inflation protection are an accurate guide to future annual funding costs, they do not reflect the future annual expensing costs for retroactive inflation protection. As noted above, the amortization method commonly used for expensing purposes produces amortization expenses that are particularly high in the first year but which decline in subsequent years.

For example, Table 4.3 shows an average maximum first-year expensing cost increase for retroactive inflation protection of 6.73 per cent of payroll for the 16 plans considered (compared with an average funding cost increase of 3.77 per cent of payroll for the same 16 plans). However this expensing cost increase would decline to 5.8 per cent of payroll in the third year, 4.9 per

cent of payroll in the fifth year, 3.5 per cent of payroll in the 10th year, and 2.5 per cent of payroll in the 15th year, with an average expensing cost increase of 4.2 per cent of payroll over the 15-year amortization period. In comparison, the funding cost increase for these 16 plans would remain at the first-year level of 3.77 per cent of payroll throughout the 15-year period. In year 16, only the additional cost of prospective inflation protection would remain for these plans, a 1.42 per cent funding cost and a 1.56 per cent expensing cost, other things remaining unchanged.

C Funding and Expensing Cost Estimates for Five Formulas

Table 4.5 provides a summary comparison of the funding and expensing cost estimates for the five principal inflation protection formulas. The following observations are noted.

First, each formula produces a wide variation in first-year funding and expensing costs. For example, the maximum and minimum funding costs under 60% of CPI are 4.46 per cent and 0.26 per cent of payroll, respectively. This variation is similar to the 3.86 per cent maximum and 0.00 per cent minimum for (75% of CPI) -1%. The wide variation in first-year cost increases across the 22 sample plans reflects their different benefit and demographic characteristics.

Second, the (75% of CPI) -1%, 60% of CPI and (100% of CPI) -2.5% formulas produce approximately the same first year funding and expensing cost increase. This is most clearly reflected in their average costs. For example, their average maximum funding costs for prospective inflation protection are 1.44 per cent, 1.69 per cent and 1.14 per cent of payroll, respectively, a range of only 0.55 percentage points.

The similarity in first-year cost increases results from the fact that the three formulas, although different in design, provide approximately the same level of inflation protection under the longrun inflation assumption chosen for funding and expensing. The funding estimates assume a longrun inflation rate of 4.5 per cent. Expressed as a percentage of the assumed longrun change in CPI, (75% of CPI) -1% provides 53% inflation protection, (100% of CPI) -2.5% provides 44% inflation protection and the 60% of CPI provides 60% inflation

protection. Under the expensing assumption of 5.0 per cent longrun inflation, the corresponding levels of inflation protection for the three formula are 55%, 50% and 60%, respectively.

Third, the 100% of CPI and Fund Rate-3.5% formulas produce the largest first-year cost increase. For example, the average prospective funding cost increase is 3.38 per cent of payroll for 100% of CPI and 2.49 per cent of payroll for Fund Rate-3.5%. These are 134 per cent and 73 per cent higher than the average cost of the (75% of CPI) -1% formula. Under the funding assumption of 4.5 per cent longrun inflation the Fund Rate-3.5% formula provides 80% inflation protection and under the expensing assumption of 5.0 per cent it provides 93% inflation protection.

D Surplus and the Financing of Inflation Protection

The funded ratios in Table 4.4 (unlike those in Table 4.1) were calculated using the actuarial value of assets submitted for each plan and the new level of liabilities assuming the standardized funding basis. If a plan's funded ratio is greater than 1, the plan's assets exceed its liabilities and the fund has a surplus. The larger the ratio, the larger the surplus. As indicated in the last column of Table 4.4, 12 of the 22 Stage II plans are in surplus, with funded ratios varying from 1.01 to 1.42. However, only nine plans have surpluses exceeding 10 per cent of their liability (i.e. have funded ratios above 1.1) which could provide significant help in financing inflation protection. For the 13 plans with funded ratios less than 1.1, little or no surplus is available to finance inflation protection, and additional contributions to the plan would be required.

E Stage II and 1984 Ontario White Paper Cost Estimates Compared

Although calculated using different economic assumptions and different methodologies, it is interesting to compare Stage II funding cost estimates for inflation protection with the estimates prepared for 'Ontario Proposals for Pension Reform'

released in 1984. The then Ontario government proposed prospective inflation protection at 60% of CPI.

Table 4.6 presents a comparison of the two sets of cost estimates. The left panel repeats Stage II first-year funding cost estimates for prospective inflation protection at 60% of the CPI and the right panel presents the corresponding 1984 Ontario estimates. As discussed in Chapters 2 and 3, the Ontario costs are really longrun 'economic value' estimates calculated for hypothetical average plans. The incremental cost of inflation protection was derived from the background cost estimates prepared by William M. Mercer Limited for the Ontario Ministry of Treasury and Economics.

The first striking feature of the two sets of estimates is that despite the different methodologies, economic assumptions and benefit designs, the estimated average costs of inflation protection at 60% of CPI are very similar. The average funding cost across the 22 Stage II pension plans is 1.69 per cent of payroll and the average cost across the four hypothetical plans in the 1984 Ontario White Paper is 1.50 per cent of payroll. The difference is only 0.19 percentage points. This indicates that while the 1984 methodology can be criticized for not being conceptually consistent with the calculation of first-year funding costs, it nonetheless produced an average cost estimate for inflation protection that is not dissimilar to the conceptually sound Stage II average first-year cost estimates.

The second striking feature is that the 1984 Ontario estimates do not convey the wide variation in funding cost increases facing different pension plans. For example, the 1984 estimates indicate that prospective 60% inflation protection will increase cost of a typical final average pension plan by about 1.75 per cent of payroll. In contrast, the Stage II estimates indicate that final average plans face first-year funding cost increases ranging from a low of 0.31 per cent of payroll to a high of 4.46 per cent of payroll. The wide variation in funding costs across pension plans due to heterogeneous benefit designs and demographic characteristics is a principal message of the Stage II cost estimates.

TABLE 4.1

CHARACTERISTICS OF 22 STAGE II PLANS

	Plan Number (Code)	Members			Estimated Implicit Inflation Protection Policy (% CPI)	Funded Ratio	Industry
		Actives	Retireds	Deferreds			
Private Sector							
Flat Benefit, Single Employer	1(1)	11,126	3,770	876	70	0.98	Manufacturing
	2(3)	6,011	2,825	476	0	0.60	Manufacturing
	3(4)	1,217	522	75	20	0.90	Manufacturing
	4(6a)	469	26	35	0	0.67	Manufacturing
Flat Benefit, Multi-Employer	5(8)	4,665	84	8	25	1.06	Construction
	6(8c)	2,550	329	621	25	0.81	Manufacturing
Career Average, Contributory	7(11)	591	108	34	50	1.17	Mining
	8(12)	183	21	9	0	0.96	Manufacturing
Career Average, Non-Contributory	9(16)	6,177	305	275	0	1.17	Food Wholesale
	10(17)	2,586	1,038	420	0	0.92	Food Retail
	11(17a)	1,147	319	41	55	1.08	Food
Final Average, Contributory	12(19)	1,238	338	204	50	1.10	Food
	13(20)	71	122	42	40	1.32	Construction
	14(21)	3,882	1,127	141	60	1.07	Communication
Final Average, Non-Contributory	15(24)	10,468	7,807	2,716	50	1.01	Petroleum
	16(29)	1,020	3	60	0	1.25	Electronics
	17(30)	1,135	354	57	60	1.25	Insurance
Combined Final Average and Flat Benefit, Single Employer	22(36)	7,431	5,412	3,245	40	0.85	Manufacturing
Public Sector							
Final Average, Contributory	18(34)	600	831	12	0	0.99	Gov't. Services
	19(35)	2,642	298	8	55(1)	1.13	Educ. Services
	20(35a)	71,271	18,382	2,068	60	1.10	Gov't. Services
	21(35b)	78,307	28,646	681	100(2)	1.10	Gov't. Services
Totals	22	214,787	72,667	12,104			

- 1) Plan 35 provides inflation protection through an explicit excess interest formula.
 2) Plan 35b provides 100% inflation protection through a separate escalation fund.

TABLE 4.2

PRINCIPAL ECONOMIC AND ACTUARIAL ASSUMPTIONS FOR STAGE II COST ESTIMATES

	<u>Funding</u>	<u>Expensing</u>
	%	%
Inflation	4.50	5.00
Real Investment Return	2.50	3.00
Real Earnings Growth	1.50	2.00
Nominal Investment Return	7.11	8.15
Nominal Earnings Growth	6.07	7.10

Expression of Costs

Funding and expensing costs both expressed as a percentage of payroll. Current service costs for contributory plans include employer and employee contributions. Present costs calculated before pension reform. Standardized cost calculated after pension reform, but before inflation protection. Pension reforms assumed to be adopted retroactively.

Valuation Methods

Funding costs estimated using unit credit with projection for final average plans. Unit credit without projection for career average and flat benefit plans. Present cost for plans in the sample that used entry age normal were reestimated using unit credit with projection. Expensing costs estimated using unit credit with projection for final and career average plans and unit credit without projection for flat benefit plans.

Revenue Canada Maximum

Funding and expensing costs were estimated without a maximum pension limit. This recognizes that the current Revenue Canada \$60,025 limit will be escalated and simplifies calculations.

Amortization of Unfunded Liabilities / Surpluses

For funding costs unfunded liabilities and surpluses are amortized over 15 years as a level percentage of payroll. This provides consistent representation of both unfunded liabilities and surpluses and avoids skewing of annual UFL payments or surplus financed current costs. For expensing costs the straightline amortization method is used.

Termination, Retirement and Mortality Rates

Retirement rates replaced by single retirement age. Termination and disability rates are zero. This approximates the effect of two year vesting. Mortality rates are either GAM 71 or GAM 83 depending upon which best approximates the rates used by plan. Male and female rates are combined into unisex rates according to the proportion of males and females.

Plan Membership

Number, age, sex and earnings of active members as in data submitted. Number, age, sex and pensions of deferred and retired members as in data submitted. Data has been compressed into age-duarion cells to facilitate computations. Members of flat benefit plans were assumed to have average earnings of \$35,000.

TABLE 4.3

FIRST-YEAR FUNDING AND EXPENSING COST OF PARTIAL INFLATION PROTECTION

Percentage of payroll, (75% of CPI) -1%

Plan Number (Code)	Funding				Expensing			
	Prospective		Retroactive		Prospective		Retroactive	
	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l
<u>Flat benefit (single employer)</u>								
1 (1)	0.54	0.00	1.98	0.00	0.49	0.00	3.43	0.00
2 (3)	0.80	0.80	3.16	3.16	0.74	0.74	5.56	5.56
3 (4)	0.50	0.32	1.92	1.23	0.45	0.29	3.41	2.24
4 (6a)	0.23	0.23	0.51	0.51	0.19	0.19	0.74	0.74
<u>Flat benefit (multi-employer)</u>								
5 (8)	0.69	0.38	0.88	0.48				
6 (8c)	0.25	0.14	0.70	0.39				
<u>Career average (contributory)</u>								
7 (11)	0.37	0.03	1.55	0.10	0.80	0.08	3.90	0.42
8 (12)	0.50	0.50	1.46	1.46	0.91	0.91	3.62	3.62
<u>Career average (non-contributory)</u>								
9 (16)	0.61	0.61	0.98	0.98	1.01	1.01	2.20	2.20
10 (17)	1.24	1.24	3.65	3.65	1.77	1.77	8.47	8.47
11(17a)	1.06	0.00	3.19	0.00	1.66	0.00	6.66	0.00
<u>Final average, private (contributory)</u>								
12 (19)	3.30	0.22	7.47	0.50	3.32	0.36	12.07	1.31
13 (20)	2.07	0.59	4.59	1.31	2.11	0.67	7.48	2.37
14 (21)	2.35	0.00	4.48	0.00	2.36	0.00	6.87	0.00
<u>Final average, private (non-contributory)</u>								
15 (24)	2.38	0.16	8.06	0.54	2.35	0.25	14.27	1.53
16 (29)	2.13	2.13	3.02	3.02	2.15	2.15	4.03	4.03
17 (30)	3.86	0.00	9.73	0.00	3.92	0.00	16.33	0.00
<u>Final average, public (contributory)</u>								
18 (34)	2.08	2.08	9.84	9.84				
19 (35)	0.00	0.00	0.00	0.00				
20(35a)	3.33	0.00	6.24	0.00				
21(35b)	2.49	0.00	5.61	0.00				
<u>Hybrid: flat benefit and final average (non-contributory)</u>								
22 (36)	0.84	0.24	4.60	1.31	0.76	0.24	8.61	2.73
Summary Statistics								
Max.	3.86	2.13	9.84	9.84	3.92	2.15	16.33	8.47
Min.	0.00	0.00	0.00	0.00	0.19	0.00	0.74	0.00
Mean	1.44	0.44	3.80	1.29	1.56	0.54	6.73	2.20
Std Dev	1.13	0.61	2.89	2.15	1.05	0.63	4.25	2.27

NOTE: Pot'l - Potential. Expensing costs are not applicable to public sector and multi-employer pension plans.

TABLE 4.4

MAXIMUM AND POTENTIAL FUNDING COST OF (75% of CPI)-1.0%

(Percent of Payroll)

PLAN CHARACTERISTICS

Estimated															
Plan Type	Plan Number (Code)	Implicit		Annual Accrual Rate	Normal Retirement		Bridge Benefit	Guarantee Period	Survivor Benefit	Actives		Retired & Deferred		Funded Ratio	
		Inflation Protection			Age	Age				Average Service Years	Average Age	Lives Liability (\$ of Total)	Mort'y Table		
FB(SE)	1(1)	70		0.76	60		Y	0	N	41.4	14.5	85	42	GA71	0.92
	2(3)	00		0.96	60		Y	0	Y	43.5	18.7	100	34	GA71	0.56
	3(4)	20		0.69	60		Y	5	Y	38.4	13.4	99	56	GA71	0.83
	4(6a)	00		0.58	65		N	0	N	39.4	9.10	79	17	GA71	0.88
FB(ME)	5(8)	25		1.43	65		N	10	N	40.2	14.7	100	5	GA71	1.35
	6(8c)	25		0.51	65		N	5	N	42.2	11.3	77	27	GA71	0.82
CA(C)	7(11)	50		1.51	65		N	10	Y	39.8	8.0	74	40	GA71	1.41
	8(12)	00		1.26	63		N	5	N	38.8	8.9	75	49	GA71	1.27
CA(NC)	9(16)	00		1.40	65		N	5	N	39.6	5.7	62	20	GA71	1.26
	10(17)	00		1.75	61		N	5	N	41.5	15.6	77	50	GA83	0.90
FA-Pr(C)	11(17A)	55		1.69	62		Y	5	Y	40.6	10.7	74	45	GA71	1.03
	12(19)	50		1.66	62		Y	0	Y	38.9	9.9	73	35	GA71	1.02
	13(20)	40		1.66	65		N	10	N	44.6	8.8	86	42	GA71	1.42
FA-Pr(NC)	14(21)	60		1.43	63		N	5	N	41.9	8.7	69	23	GA71	1.13
	15(24)	50		1.44	61		Y	0	N	37.1	11.2	78	63	GA83	0.78
	16(29)	00		1.57	65		N	5	N	33.9	4.7	66	3	GA71	1.13
FA-Pu(C)	17(30)	60		1.45	60		Y	0	Y	36.2	10.4	36	38	GA71	1.20
	18(34)	00		1.58	65		N	0	Y	51.0	27.4	95	43	GA83	0.97
	19(35)	*		1.66	65		N	5	N	42.6	9.2	54	14	GA83	1.01
20(35a)	60			1.42	63		N	0	Y	42.6	9.4	21	22	GA83	1.11
	21(35b)	100		1.44	62		Y	0	Y	41.3	11.4	59	30	GA71	0.93
FB+FA(NC)	22(36)	40		1.34	62		Y	5	N	43.5	16.7	72	77	GA71	0.74

* Plan 35 has an explicit inflation protection policy which is prefunded using a 4.5% discount rate during retired years. This is equal to about 55% of the assumed 4.5% longrun inflation rate. The (75% of CPI)-1.0% formula provides about 52% protection.

TABLE 4.5

COMPARISON OF MAXIMUM AND POTENTIAL FUNDING AND
EXPENSING COST OF FIVE FORMULA

Percentage of payroll

Formula	Funding				Expensing			
	Prospective		Retroactive		Prospective		Retroactive	
	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l
<u>(75% CPI) -1%</u>								
Maximum	3.86	2.13	9.84	9.84	3.92	2.15	16.33	8.47
Minimum	0.00	0.00	0.00	0.00	0.19	0.00	0.74	0.00
Mean	1.44	0.44	3.80	1.29	1.56	0.54	6.73	2.20
<u>60% CPI</u>								
Maximum	4.46	2.61	11.58	11.58	4.35	2.38	18.11	9.39
Minimum	0.26	0.00	0.59	0.00	0.22	0.00	0.84	0.00
Mean	1.69	0.60	4.43	1.72	1.73	0.66	7.45	2.74
<u>(100% CPI)-2.5%</u>								
Maximum	3.08	1.71	7.77	7.60	3.56	1.92	12.74	7.56
Minimum	0.00	0.00	0.00	0.00	0.17	0.00	0.66	0.00
Mean	1.14	0.30	3.03	0.91	1.41	0.43	5.69	1.70
<u>Fund Rate-3.5%</u>								
Maximum	6.42	4.27	17.70	17.70	7.70	4.13	32.06	16.76
Minimum	0.37	0.00	0.84	0.00	0.38	0.29	1.46	1.46
Mean	2.49	1.34	6.48	3.63	3.03	1.96	13.03	8.28
<u>100% CPI</u>								
Maximum	8.59	6.09	24.97	24.97	8.46	4.52	35.23	18.45
Minimum	0.50	0.00	1.13	0.00	0.42	0.38	1.61	1.61
Mean	3.38	2.17	8.77	5.78	3.32	2.25	14.29	9.48

TABLE 4.6

COMPARISON OF STAGE II AND ONTARIO 1984 WHITE PAPER PROPOSAL

Percentage of Payroll, 60% of CAI, No retroactives

Plan Type	STAGE II		Maximum Funding	1984 ONTARIO Maximum Funding
	Plan Number	(Code)		
FB(SE)	1	(1)	0.62	0.96
	2	(3)	0.93	-
	3	(4)	0.58	-
	4	(6a)	0.26	-
FB(ME)	5	(8)	0.79	-
	6	(8c)	0.29	-
CA(C)	7	(11)	0.43	1.54
	8	(12)	0.59	-
CA(WC)	9	(16)	0.71	-
	10	(17)	1.43	-
	11	(17a)	1.22	-
FA-PR(C)	12	(19)	3.82	1.76
	13	(20)	2.39	-
	14	(21)	2.71	-
FA-Pr(NC)	15	(24)	2.76	1.75
	16	(29)	2.45	-
	17	(30)	4.46	-
FA-Pu(C)	18	(34)	2.61	-
	19	(35)	0.31	-
	20	(35a)	3.86	-
	21	(35b)	2.88	-
(FB+FA) -Pr(NC)	22	(36)	<u>0.97</u>	-
Average			1.69	1.50

Stage III: Multi-Year Operating Cost of Inflation Protection

I METHODOLOGY

Stage III examines the multi-year impact CPI-linked inflation protection formulas would have on total annual pension plan operating costs over a twenty year period because of fluctuating inflation rates, earnings growth rates and investment returns. Stage II first-year operating cost estimates under various inflation protection formulas are calculated as if assumed longrun investment returns, earnings growth rates and inflation rates would be actually realized every year in the future. This, of course, does not happen. Actual shortrun economic experience invariably differs from the longrun economic assumptions used to calculate annual operating costs, even if over the longrun these assumptions prove correct. This variability in shortrun experience means variability or uncertainty about shortrun operating costs which translates into financial risk for plan sponsors.

The inevitable departure from assumed longrun experience will either increase or decrease shortrun pension costs. While unexpected decreases in operating costs usually pose welcomed problems, unexpected increases in operating costs can have a significant deleterious effects on plan sponsors. A key concern is that unexpected high inflation and low investment returns in combination with mandatory inflation protection will impose very high levels of shortrun operating costs.

Multi-year funding and expensing estimates were calculated for three Stage II plans: a flat benefit plan (plan 2), a contributory career average plan (plan 8), and a non-contributory final average plan (plan 17). Under a given twenty-year economic scenario, annual funding and expensing costs for each plan were first estimated assuming no inflation protection. This established a benchmark for comparison. Various CPI-linked inflation protection formulas were then

introduced into each plan and corresponding operating costs estimated. The magnitude and variability of these operating costs were then compared to the operating cost assuming no inflation protection.

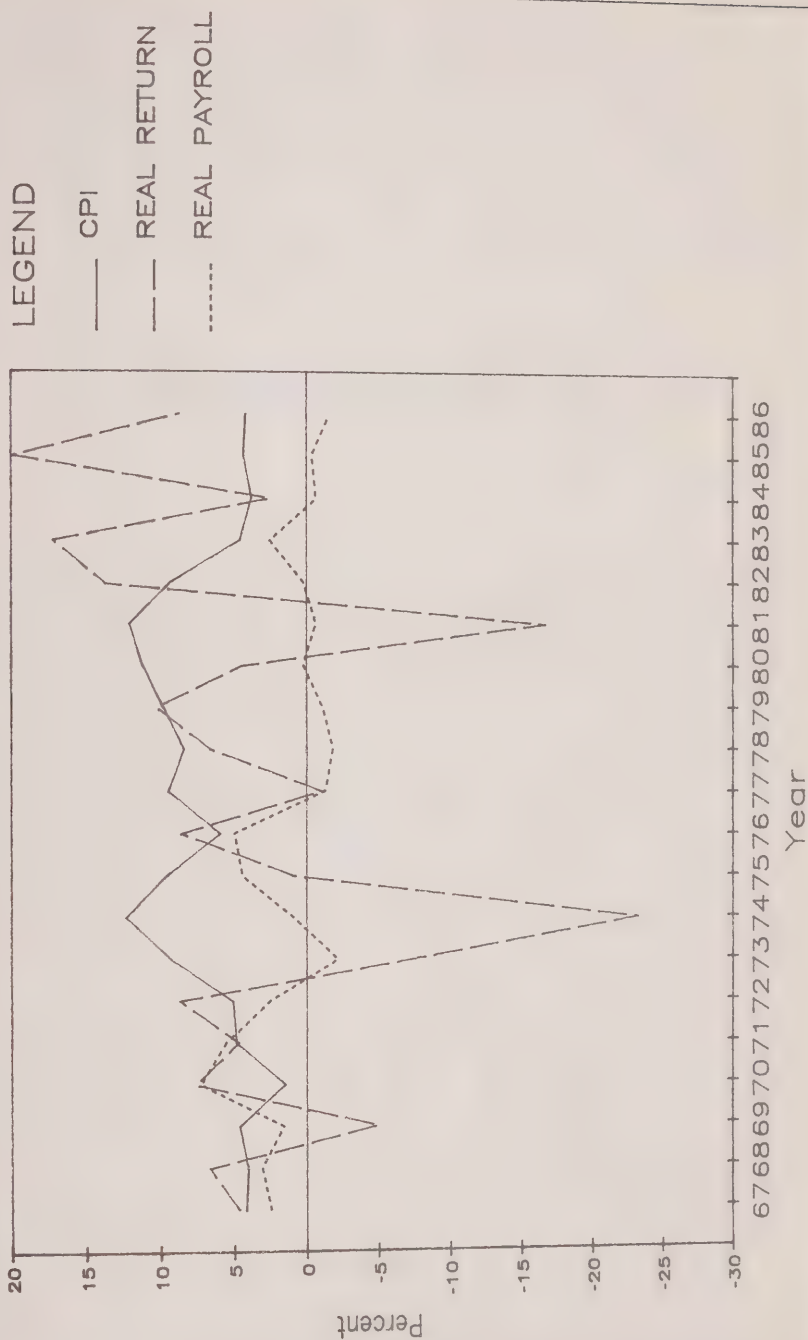
II ECONOMIC AND ACTUARIAL ASSUMPTIONS

Table 5.1 summarizes the principal economic and actuarial assumptions used in Stage III. The same longrun economic assumptions developed in Stage II were used to calculate annual current service funding and expensing amounts for each plan. Total annual operating cost (which is simply the sum of current service cost and the amortization of any unfunded liability or surplus) was then derived by incorporating historical economic experience. If actual inflation, investment performance and earnings growth are favourable relative to longrun assumptions, unfunded liabilities will decline and total operating costs will be reduced. On the other hand, if actual experience is not favourable, unfunded liabilities will increase and total operating costs also increase.

Twenty years of annual operating costs were first estimated for the three selected Stage II plans as if pension reform, including inflation protection, was fully mature. To test the impact of retroactivity, annual operating costs for the flat benefit plan were also estimated under the assumption that pension reform, including inflation protection, is retroactive. These latter results are presented in Appendix C.

The fixed economic scenario used in Stage III repeats the economic conditions over the twenty years 1967 to 1986. As illustrated in Figure 5.1, these two decades contain a period of stable inflation and real investment returns (1967-72), a period of rising inflation and negative real returns (1973-81), and finally a period of declining inflation and rising real returns (1982-86). The real returns are those earned on a portfolio invested 50 percent in equity and 50 percent in long bonds. Figure 5.1 also presents the annual real earnings growth rates for the period. Because these economic conditions have actually occurred in the past, they provide a realistic and credible indication of operating cost variability.

Figure 5.1
Inflation, Real Returns and Real Payroll Increases
 1967-1986



It is also assumed that the earnings of each plan's members increase annually at the same rate as overall wages and salaries increased during the period; that each plan invests in a 50/50 portfolio of equities and long bonds; that active members of the flat rate plan have their benefits updated by the general growth in earnings once every three years; and finally, that active members of the career average plan have their benefits updated every six years.

III RESULTS ASSUMING PENSION REFORM FULLY MATURE

A Funding

Table 5.2 illustrates the impact of implementing (75% of CPI) -1% and 100% of CPI inflation protection formulas on annual pension funding costs over a twenty year period assuming pension reform has matured. Summary statistical characteristics of the annual funding costs are presented in the bottom portion of the table. The annual current service and total funding payments under 0% inflation protection and the two formulas are graphically portrayed in Figure 5.2 and annual unfunded liability payments are portrayed separately in Figure 5.3. A comparison of Figures 5.2 and 5.3 indicates that annual unfunded liability payments are the major component of the total annual funding costs of the flat benefit plan.

Table 5.2 illustrates that under 0% inflation protection the maximum total funding cost for the flat benefit plan would be 19.62 per cent of payroll, assuming the economic conditions of 1967 to 1986 recurred. The 1979 total funding cost of 19.62 per cent is composed of a 4.22 per cent of current service cost and a 15.40 per cent cost to amortize unfunded liabilities.

Under a (75% of CPI) -1% formula, the maximum total funding cost would be 27.14 per cent of payroll, or 7.52 percentage points higher than the maximum cost under no inflation protection. A 100% CPI inflation protection formula would have resulted in a maximum total funding cost of 34.22 per cent of payroll. Over the twenty-year period the (75% of CPI) -1% formula would have raised the plan's average total cost to 17.41 per cent of payroll, compared to

Figure 5.2

Current Service & Total Funding Costs Flat Benefit Plan

(Mature Scenario)

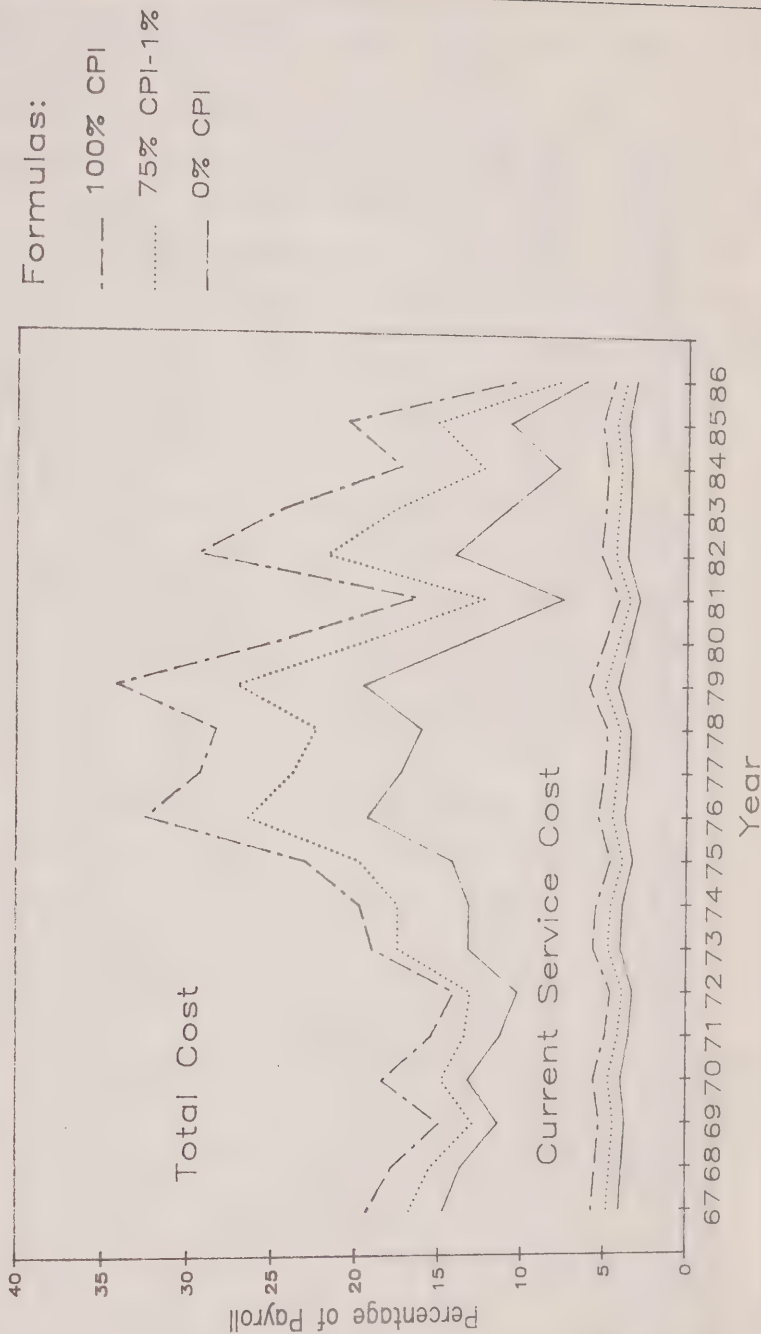
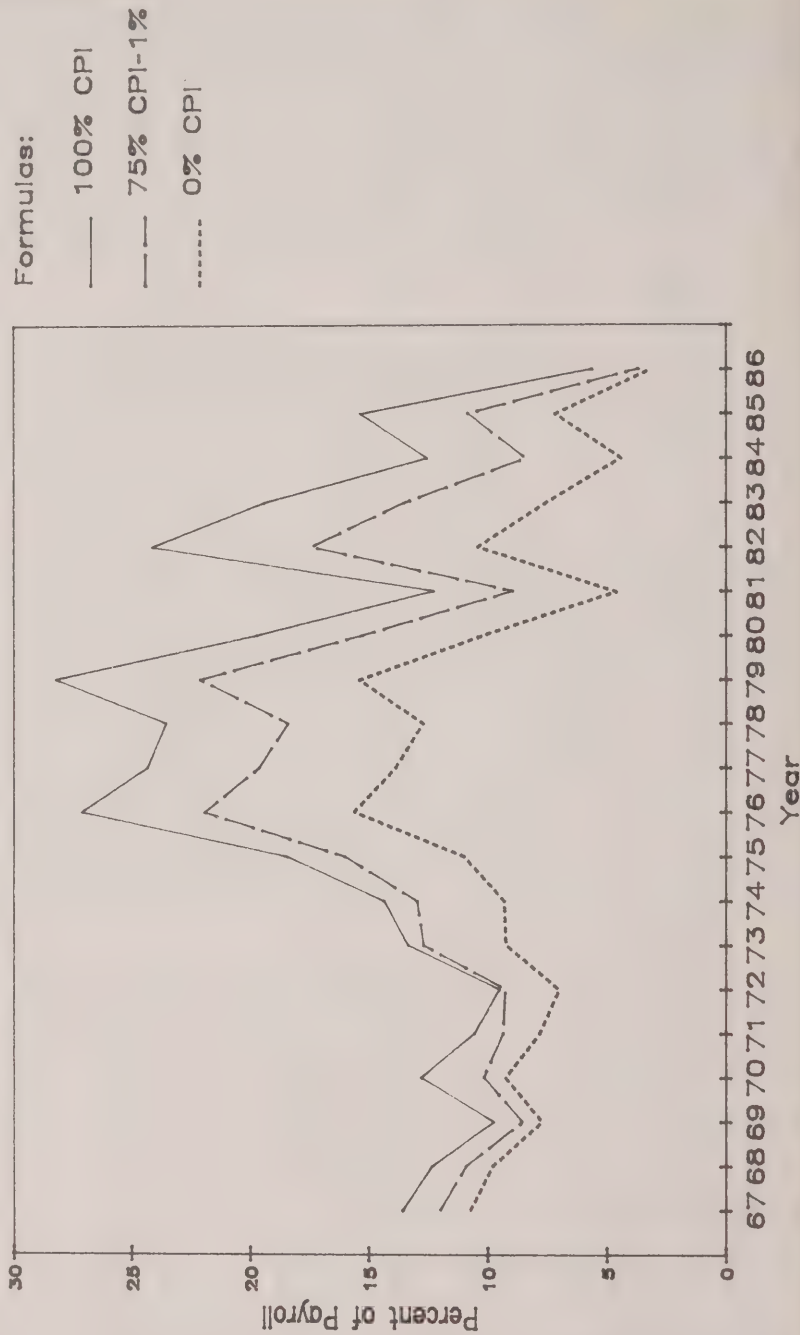


Figure 5.3
Annual Unfunded Liability Payments
Flat Benefit Plan



the benchmark average of 12.96 per cent of payroll. The 100% CPI formula raises the average to 21.49 per cent of payroll.

The summary statistics in Table 5.2 and a comparison of Figures 5.2 and 5.3 illustrate that unfunded liability payments are the principal contributor to the variability or uncertainty of shortrun funding costs. Although the standard deviation of current service costs increase under a (75% of CPI) -1% and 100% CPI formulas relative to 0% CPI inflation protection, their absolute magnitudes remain small at 0.38 per cent and 0.46 per cent respectively. In contrast the standard deviations of unfunded liability payments under 0% of CPI, (75% of CPI) -1% and 100% of CPI are much larger at 3.30 per cent, 4.79 per cent and 6.24 per cent, respectively.

The figures in Table 5.2 also indicate that the uncertainty about total shortrun funding costs increase with the degree of inflation protection. Under 0% inflation protection, the standard deviation over the twenty year period is 3.49 per cent. However, under (75% of CPI) -1% the standard deviation of total funding costs increases to 4.95 per cent and under 100% of CPI, it further increases to 6.40 per cent. These increases suggest that relative to no inflation protection, the (75% of CPI) -1% formula increases uncertainty by 42 per cent, and the 100% of CPI formula increases uncertainty by 83 per cent.

In practical terms, the shortrun funding cost uncertainty faced by the flat benefit plan sponsor under 0% inflation protection means there is about a 15 per cent chance in any one year that total funding cost will exceed 16.45 per cent of payroll even though the average annual total cost over the twenty years would be 12.96 per cent of payroll. Under the (75% of CPI) - 1% formula there is about a 15 per cent chance that the total funding cost would exceed 22.35 of payroll while the average cost would be 17.41 per cent of payroll. Finally, under 100% of CPI inflation protection there is about a 15 per cent chance that total funding could exceed 27.89 per cent of payroll while the average total funding cost over the twenty years would be 21.49 per cent.

B Expensing

Table 5.3 and Figure 5.4 illustrate the impact the three CPI-linked formulas would have had on annual pension expensing costs. As with funding costs, the inflation protection formulas increase both the one-year maximum pension expense and the average pension expense over the period. Under 0% inflation protection the maximum pension expense is 14.46 per cent of payroll in 1977. The maximum expense is 18.60 per cent under (75% of CPI) - 1% and 24.61 per cent under 100% of CPI. The average pension expense increases from 10.68 per cent of payroll under 0% inflation protection, to 14.02 per cent under (75% of CPI) - 1.0% and to an average of 17.84 per cent under 100% of CPI.

The two example inflation protection formulas also increase uncertainty about pension expensing by 43 and 100 per cent, respectively. This is indicated by the increase in the standard deviation of total expensing costs from 2.0 per cent under 0% inflation to 2.98 per cent under (75% of CPI) - 1% and 4.17 per cent under 100% of CPI.

C Summary Analysis of Four CPI-Linked Formulas and Three Plans

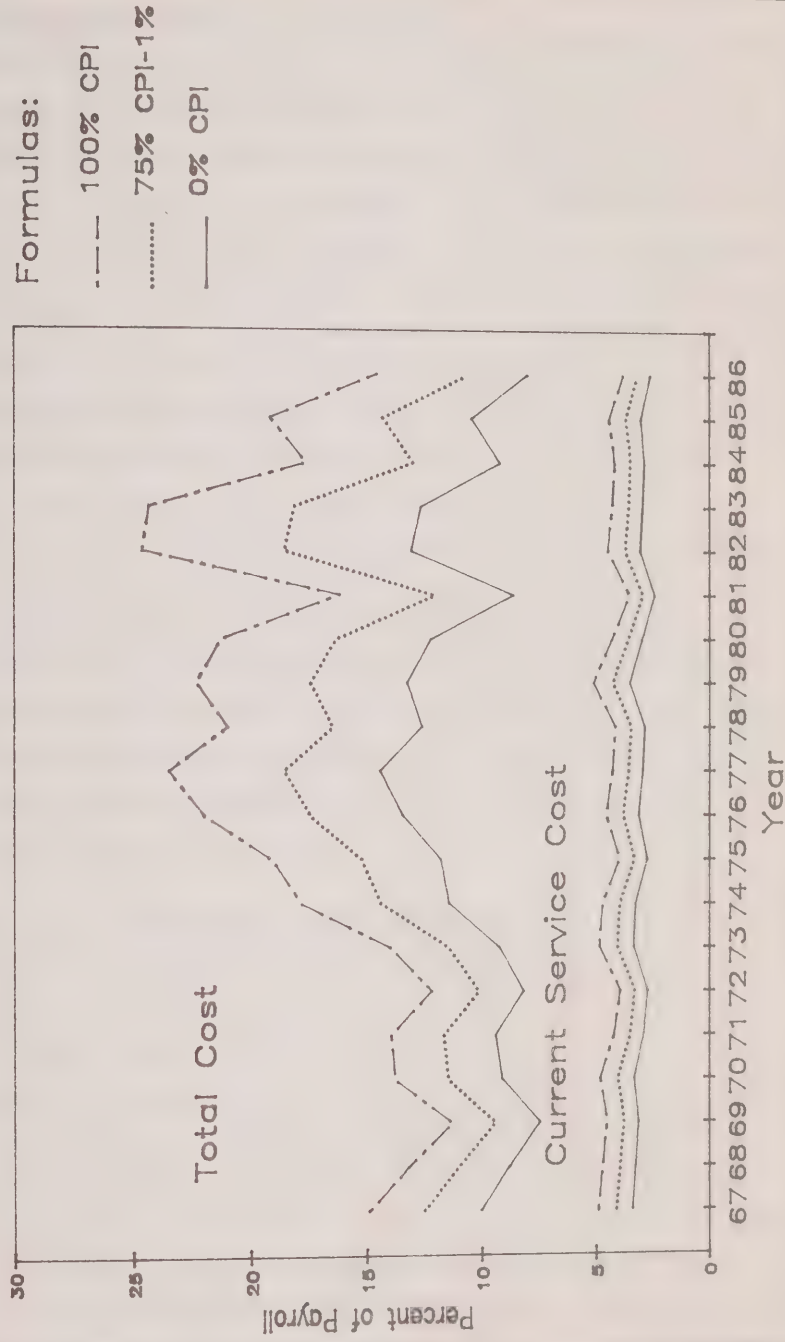
Table 5.4 provides a comparative summary of the multi-year operating cost characteristics of the four CPI-linked inflation protection formulas and the three Stage III pension plans. Detailed summaries of the funding and expensing costs for each year are presented in Appendix C.

As expected over the twenty year period the 100% of CPI formula would have produced the largest average increase in total operating costs under both funding and expensing. For example, the average increases in total funding and expensing costs for the final average plan are 11.05 and 9.46 per cent of payroll, respectively. The corresponding average operating cost increases under the (75% of CPI)-1% formula are 6.36 per cent and 4.82 per cent of payroll, respectively.

Also as expected for a given plan, the three middle range protection formulas would have produced approximately the same average increase in multi-year operating costs. However, it should be noted that the average increase

Figure 5.4

**Current Service & Total Expensing Costs
Flat Benefit Plan**



operating costs under the (100% of CPI) -2.5% formula is generally higher than under the other two middle range formulas. This is in contrast to the Stage II analysis which indicated that the (100% of CPI)- 2.5% formula would produce first-year operating cost increases lower than those of the other two formulas.

This 'reversal' in the relative cost of the three middle range formulas reflects their different dynamic characteristics. In particular, while the (100% of CPI) -2.5% formula may appear less costly under the assumption of a constant longrun inflation rate of 4.5 per cent, it can be more expensive over a multi-year horizon which includes periods of high inflation than the other middle range formula because its 2.5 percentage point deductible feature provides a proportionally higher level of inflation protection at high levels of inflation.

For example, at the assumed longrun 4.5 per cent inflation rate, the (100% of CPI) -2.5% formula provides 44% inflation protection and the (75% of CPI)-1% provides 53% protection. However, if inflation rises to 12.10 per cent as it did in 1981 the degree of inflation protection provided by the two formulas are 79% and 67%, respectively. This means the (100% of CPI) -2.5% formula would produce higher unfunded liabilities, correspondingly higher amortization payments and higher total operating costs. Over the twenty year period examined in Stage III these different dynamic characteristics resulted in higher average total cost increases for the (100% of CPI) -2.5% formula than for the (75% of CPI) -1% formula.

Table 5.4 also indicates that the 100% of CPI formula would produce the largest increase in variability of shortrun funding costs: 83 per cent for the flat benefit plan, 63 per cent for the career average plan and 77 per cent for the final average plan. The formula produces somewhat higher increases in the corresponding variability of expensing costs: 100 per cent for the flat benefit plan, 87 per cent for the career average plan and 94 per cent for the final average plan. The three middle range formulas would introduce lower increases in operating cost uncertainty.

The overall pattern of increases in operating cost variability suggests three conclusions. First, under a given inflation protection formula uncertainty about expensing costs will increase proportionally more than uncertainty about funding costs. For example, for the final average plan under 60% of CPI, uncertainty about expensing increases 49 per cent, while uncertainty about funding

increases only 40 per cent. The difference is less significant under the (75% of CPI)-1% formula.

Second, career average plans which provide infrequent updates will face smaller increases in uncertainty about shortrun operating cost than will regularly updated flat benefit plans or final average plans. For example, under (75% of CPI) -1% funding and expensing cost variability of the career average plan increased by 27 and 39 per cent, respectively. The corresponding figures are a higher 42 per cent and 43 per cent for the regularly updated flat benefit plan and 44 per cent and 45 per cent for the career average plan. It is expected that career average plans which regularly update active members benefits will exhibit a greater increase in operating cost uncertainty than is presented in Table 5.4.

Third, the increases in operating cost uncertainty for flat benefit plans which regularly upgrade active members benefits and final average plans are similar. For example, under the 60% of CPI formula funding and expensing uncertainty for the flat benefit increased 39 and 47 percent, respectively. The corresponding increases for this final average plan are 40 per cent, and 49 per cent. Flat benefit plans which do not update active members benefit regularly would probably realize small increases in shortrun operating cost uncertainty.

III SUMMARY AND CAVEAT

A Summary

Four general conclusions emerge from the Stage III multi-year analysis of how alternative inflation protection formulas affect pension plan operating costs.

First, neither the relationship between the longrun economic value of inflation protection and longrun inflation rates developed in Stage I, nor the static first-year cost estimates calculated in Stage II can be used to assess fully the impact alternative inflation protection formulas have on shortrun operating costs of pension plans. These estimates assume expected longrun investment returns, earnings growth rates and inflation rates will actually be realized each and every year into the future. This does not happen.

Second, the Stage III multi-year cost estimates provide a fuller and more accurate insight into the ongoing shortrun operating cost increases inflation protection can impose on pension plans. Stage III incorporates the reality that shortrun inflation rates, investment earnings and earnings growth rates will inevitably differ from the longrun rates assumed in static cost estimates.

Third, CPI-linked inflation protection increases the variability or uncertainty about future shortrun operating costs which increase a plan sponsor's financial risk. In general, the level of uncertainty increases as the level of inflation protection increases.

Fourth, under a given formula expensing cost uncertainty will increase more than funding cost uncertainty.

B Caveat

Stage III has examined the impact alternative CPI-linked inflation protection formulas have on the level and volatility of alternative inflation protection formula assuming that funding and accounting valuations are undertaken annually and that plan sponsors take no actions to reduce operating cost variability. While these assumptions had to be invoked to do the Stage III analysis, it must be recognized that plan sponsors can take actions to reduce somewhat the volatility of operating costs. These include timing of valuations, changing of valuation assumptions, changing investment policies and changing methods of valuing assets. Sponsors of flat benefit and career average plans can also control the magnitude and timing of upgrades to active members benefits. The selective and judicious use of these tools should help plan sponsors to moderate the increased operating cost variability estimated in Stage III.

On the other hand, recent changes in Ontario's solvency standards may increase future cost volatility. For example, the new solvency standards will require flat benefit plans to amortize certain unfunded liabilities over a maximum of five years instead of the traditional 15 year period.

Finally, economic scenarios different from the one selected for Stage III would produce higher or lower estimated increases in operating cost variability.

TABLE 5.1

STAGE III ECONOMIC AND ACTUARIAL ASSUMPTIONS

Economic Assumptions for Funding and Expensing

	<u>Funding</u> (%)	(%)	<u>Expensing</u>
Inflation	4.50		5.00
Valuation Interest Rate	7.11		8.15
Nominal Earnings Growth	6.07		7.10

Future Economic Experience

Actual 1967-86 economic experience assumed repeated.

Flat Benefit and Career Average Plan Upgrades

Benefits for active members of flat rate plan updated by actual increase in earnings every three years; benefited for active members of career average plan updated every six years.

Valuation Method

Funding costs for flat benefit and career average plan estimated using unit credit without projection; unit credit with projection used for final average plan.

Expensing costs for flat benefit plan estimated using unit credit without projection; unit credit with projection used for career and final average plans.

Revenue Canada \$60,025 maximum escalated at 5.0% commencing 1995.

Amortization

For funding experience gains/deficiencies amortized over 5 years using mortgage method; other unfunded liabilities amortized over 15 years using mortgage method.

For expensing experience gains/losses and unfunded amortized over each plan's EARSL using straight-line method.

Membership Characteristics

As in each plan's actuarial report. Ages of new entrants are assumed to be constant at the average entry age of the initial employee group. Their salaries are assumed to be at the average salary of the employee group when they enter. The number of new entrants are chosen such that the total number of members in the employee group is constant.

Asset Mix and Asset Valuation

Pension funds invested 50% in equities and 50% long bonds. Three year asset smoothing used for expensing and funding.

TABLE 5.2

MATURE MULTI-YEAR OPERATING COST: FLAT BENEFIT PLAN
(FUNDING COSTS)

Example Inflation Protection Formulae												
			0.0% CPI			75% CPI-1.0%			100% CPI			
Year	CPI	Fund	Earnings									
		Real	Real	Current	UFL		Current	UFL		Current	UFL	
		Return	Increase	Service	Pymts	Total	Service	Pymts	Total	Service	Pymts	Total
====	====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
67	4.20	4.65	2.48	4.05	10.71	14.76	4.82	11.98	16.80	5.74	13.58	19.32
68	4.03	6.68	3.13	3.89	9.78	13.67	4.62	10.90	15.52	5.51	12.32	17.83
69	4.65	-4.98	1.60	3.72	7.70	11.42	4.42	8.54	12.96	5.27	9.73	15.00
70	1.48	7.61	7.31	4.00	9.27	13.27	4.76	10.16	14.92	5.67	12.80	18.47
71	4.87	4.68	5.53	3.49	7.81	11.30	4.15	9.34	13.49	4.95	10.55	15.50
72	5.10	8.70	2.51	3.26	6.99	10.25	3.88	9.25	13.13	4.62	9.49	14.11
73	9.27	-7.58	-2.19	4.03	9.25	13.28	4.79	12.70	17.49	5.70	13.36	19.06
74	12.32	-23.26	0.93	3.89	9.33	13.22	4.61	12.97	17.58	5.49	14.36	19.85
75	9.53	1.02	4.46	3.27	10.99	14.26	3.89	16.00	19.89	4.64	18.44	23.08
76	5.91	8.59	4.99	3.79	15.60	19.39	4.52	21.91	26.43	5.40	27.12	32.52
77	9.46	-1.02	-1.30	3.52	13.85	17.37	4.20	19.60	23.80	5.01	24.32	29.33
78	8.36	6.59	-1.80	3.41	12.70	16.11	4.06	18.38	22.44	4.85	23.52	28.37
79	9.80	10.27	-1.09	4.22	15.40	19.62	5.02	22.12	27.14	5.99	28.23	34.22
80	11.19	4.41	0.23	3.55	10.01	13.56	4.23	15.28	19.51	5.05	19.72	24.77
81	12.10	-16.71	-0.62	2.92	4.63	7.55	3.49	8.92	12.41	4.17	12.23	16.40
82	9.26	13.73	0.26	3.70	10.44	14.14	4.41	17.43	21.84	5.28	24.15	29.43
83	4.55	17.21	2.56	3.53	7.52	11.05	4.21	13.52	17.73	5.03	19.38	24.41
84	3.76	2.50	-0.64	3.43	4.41	7.84	4.08	8.38	12.46	4.87	12.52	17.39
85	4.35	19.95	-0.34	3.66	7.15	10.81	4.36	10.84	15.20	5.22	15.36	20.58
86	4.17	8.71	-1.59	3.15	3.08	6.23	3.76	3.69	7.45	4.50	5.60	10.10
MAX.	12.32	19.95	7.31	4.22	15.60	19.62	5.02	22.12	27.14	5.99	28.23	34.22
MIN.	1.48	-23.26	-2.19	2.92	3.08	6.23	3.49	3.69	7.45	4.17	5.60	10.10
MEAN	6.92	3.59	1.32	3.62	9.33	12.96	4.31	13.10	17.41	5.15	16.34	21.49
STD	3.14	10.19	2.65	0.33	3.30	3.49	0.38	4.79	4.95	0.46	6.24	6.40

TABLE 5.3

MATURE MULTI-YEAR OPERATING COST: FLAT BENEFIT PLAN
(EXPENSING COSTS)

Example Inflation Protection Formulae												
				0.0% CPI			75% CPI-1.0%			100% CPI		
				=====			=====			=====		
				Current UFL			Current UFL			Current UFL		
Year	CPI	Fund Real Return	Earnings Real Increase	Service	Pymts	Total	Service	Pymts	Total	Service	Pymts	Total
====	====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
67	4.20	4.65	2.48	3.39	6.63	10.02	4.10	8.37	12.47	4.90	9.98	14.88
68	4.03	6.68	3.13	3.25	5.54	8.79	3.93	7.08	11.01	4.70	8.47	13.17
69	4.65	-4.98	1.60	3.12	4.32	7.44	3.77	5.62	9.39	4.51	6.75	11.26
70	1.48	7.61	7.31	3.34	5.79	9.13	4.04	7.44	11.48	4.83	8.95	13.78
71	4.87	4.68	5.53	2.90	6.52	9.42	3.51	8.17	11.68	4.19	9.77	13.96
72	5.10	8.70	2.51	2.72	5.45	8.17	3.29	6.83	10.12	3.93	8.25	12.18
73	9.27	-7.58	-2.19	3.36	5.90	9.26	4.06	7.42	11.48	4.86	9.15	14.01
74	12.32	-23.26	0.93	3.25	8.20	11.45	3.93	10.46	14.39	4.69	13.13	17.82
75	9.53	1.02	4.46	2.73	9.09	11.82	3.30	11.95	15.25	3.95	15.17	19.12
76	5.91	8.59	4.99	3.14	10.33	13.47	3.81	13.65	17.46	4.57	17.44	22.01
77	9.46	-1.02	-1.30	2.93	11.53	14.46	3.55	15.05	18.60	4.26	19.24	23.50
78	8.36	6.59	-1.80	2.85	9.76	12.61	3.45	13.02	16.47	4.14	16.84	20.98
79	9.80	10.27	-1.09	3.53	9.75	13.28	4.28	13.16	17.44	5.12	17.22	22.34
80	11.19	4.41	0.23	2.96	9.25	12.21	3.58	12.76	16.34	4.29	16.96	21.25
81	12.10	-16.71	-0.62	2.41	6.21	8.62	2.93	9.16	12.09	3.52	12.67	16.19
82	9.26	13.73	0.26	3.07	10.03	13.10	3.73	14.86	18.59	4.47	20.14	24.61
83	4.55	17.21	2.56	2.94	9.71	12.65	3.57	14.56	18.13	4.28	20.03	24.31
84	3.76	2.50	-0.64	2.86	6.34	9.20	3.47	9.54	13.01	4.16	13.46	17.62
85	4.35	19.95	-0.34	3.04	7.43	10.47	3.69	10.63	14.32	4.42	14.77	19.19
86	4.17	8.71	-1.59	2.59	5.41	8.00	3.14	7.48	10.62	3.78	10.78	14.56
MAX.	12.32	19.95	7.31	3.53	11.53	14.46	4.28	15.05	18.60	5.12	20.14	24.61
MIN.	1.48	-23.26	-2.19	2.41	4.32	7.44	2.93	5.62	9.39	3.52	6.75	11.26
MEAN	6.92	3.59	1.32	3.02	7.66	10.68	3.66	10.36	14.02	4.58	13.46	17.84
STD	3.14	10.19	2.65	0.28	2.05	2.09	0.34	2.97	2.98	0.40	4.18	4.17

TABLE 5.4

MULTI-YEAR OPERATING COST CHARACTERISTICS OF FOUR
CPI-LINKED INFLATION PROTECTION FORMULA
(Assuming All Reforms Mature)

Plan	Average Increase in Total Funding/ Expensing Cost (% of Payroll)			
	<u>100% CPI -2.5%</u>	<u>75% CPI -1.0%</u>	<u>60% CPI</u>	<u>100% CPI</u>
FB(SE)	4.15/4.12	4.45/3.34	4.27/3.71	8.53/7.16
CA(C)	1.63/1.66	1.42/1.55	1.38/1.55	2.85/3.68
FA(NC)	6.83/6.34	6.36/4.82	5.65/5.07	11.05/9.46
	Increase in Funding/Expensing Cost Variability (% Increase of STD)			
FB(SE)	41/59	42/43	39/47	83/100
CA(C)	27/51	27/39	30/34	63/87
FA(NC)	33/50	44/45	40/49	77/94

NOTE: For the contributory career average plan [CA(C)], funding and expensing costs are net of employee contributions. Due to different rounding procedures, some numbers in this table are marginally different from the corresponding numbers in Table 8.4 in the Task Force report.

APPENDIX A

STAGE I SUMMARY RESULTS

NOTES FOR STAGE I

DEFINITIONS

The following definitions are used in the Stage I summary tables:

Definition of Degree of Retroactivity

"None" means no retroactivity as defined in Chapter 3.

"Partial" means retroactivity without catch up as defined in Chapter 3.

"Full" means retroactivity with catch up as defined in Chapter 3.

Definition of Pre-Cost and Post-Cost

"1) Pre-Cost" means plan cost before inflation protection.

"2) Post-Cost" means plan cost after inflation protection.

Increased cost includes amortization of unfunded liabilities.

PRINCIPAL DECISION RULES

The following decision rules were used to calculate Stage I economic costs:

1. If a plan already provides higher updates for retirees than provided under the formula being examined, then the Post-Cost estimate assuming no retroactivity embodies the higher update level.

Thus a plan that currently provides 70% updates will continue to provide 70% updates even if the inflation formula requires updates of only 60%. Under this situation, the Post-Cost estimate will equal the Pre-Cost estimate. In other words, the plan continues to provide updates in excess of the legislated minimum.

2. If a plan already provides higher updates for retirees than provided under the formulae being examined, then the Post-Cost estimate assuming partial retroactivity embodies the higher update level.

Thus, a plan that currently provides 70% updates is assumed to provide 70% updates for the deferreds even if the inflation formula requires updates of only 60%. In other words, deferred and retired members are treated equally even if this is not a legislative requirement.

This decision rule increases the estimated cost of partial retroactivity.

3. If a plan already provides higher updates for retirees than provided under the formula being examined, then the Post-Cost estimate assuming full retroactivity embodies the higher update level.

Thus a plan that provides 70% updates is assumed to provide 70% updates for deferreds, including retroactive updates, even if the inflation formula requires updates of only 60%. In other words, deferred and retired members are treated equally even if this is not a legislative requirement.

This decision rule increases the estimated cost of full retroactivity.

ASSUMPTIONS

The following tables contain the demographic and income data used to calculate Stage I economic value estimates.

STAGE I POPULATION CHARACTERISTICS

ACTIVES

DEFERREDS

ATTAINED AGE	ENTRY AGE	AVERAGE SALARY	COUNT	ATTAINED AGE	ENTRY AGE	AVERAGE SALARY	COUNT	DEFERREDS			
								AGE AT ATTAINED	TERMIN- ATION	TOTAL ANNUAL PENSION	COUNT
18	18	14,932	11	47	18	39,643	13	25	15	1,025	1
18	18	15,743	17	47	20	35,822	65	27	17	7,877	3
22	18	18,209	37	47	25	36,528	119	29	19	49,767	11
22	18	19,618	31	47	30	38,646	157	30	20	81,118	10
22	19	18,826	88	47	35	36,496	151	31	21	114,403	16
22	20	18,484	151	47	40	31,636	173	32	22	47,119	6
22	21	19,071	197	47	43	31,368	25	33	23	101,283	11
22	22	18,854	74	47	44	33,225	35	34	24	225,717	21
27	18	24,783	22	47	45	35,185	23	35	25	250,307	24
27	20	24,217	339	47	46	31,707	45	36	26	419,371	35
27	23	24,553	119	47	47	32,706	18	37	27	309,094	38
27	24	25,068	114	52	20	34,569	88	38	28	732,410	52
27	25	25,618	192	52	25	33,572	79	39	29	456,245	41
27	26	24,209	201	52	30	35,538	86	40	30	606,932	47
27	27	25,381	107	52	35	37,554	139	41	31	409,579	28
32	18	30,681	22	52	40	34,264	130	42	32	415,187	29
32	20	30,237	220	52	45	33,729	106	43	33	637,134	41
32	25	30,596	427	52	48	25,882	22	44	34	338,906	21
32	28	29,387	72	52	49	28,217	29	45	35	273,732	22
32	29	31,435	97	52	50	28,470	25	46	36	452,719	35
32	30	28,696	157	52	51	31,950	36	47	37	381,058	26
32	31	27,637	147	52	52	33,117	8	48	38	449,118	32
32	32	26,809	51	57	25	33,614	132	49	39	523,575	36
37	18	31,455	11	57	30	36,050	85	50	40	432,586	35
37	20	32,849	215	57	35	34,704	72	51	41	544,434	35
37	25	36,992	245	57	40	36,228	107	52	42	634,564	38
37	30	32,354	347	57	45	34,086	104	53	43	413,586	39
37	33	29,599	59	57	50	31,209	90	54	44	372,115	40
37	34	31,611	88	57	53	29,612	11	55	45	441,947	33
37	35	30,239	106	57	54	33,225	16	56	46	273,531	36
37	36	30,832	103	57	55	34,065	23	57	47	378,484	49
37	37	30,464	47	57	56	27,271	13	58	48	290,634	43
42	18	31,958	17	57	57	33,913	5	59	49	339,441	44
42	20	33,425	67	62	30	34,042	175	60	50	529,412	53
42	25	35,907	182	62	35	33,616	80	61	51	186,301	31
42	30	36,027	221	62	40	32,316	52	62	52	451,409	54
42	35	31,704	215	62	45	34,681	80	63	53	534,971	63
42	38	32,435	53	62	50	31,827	73	64	54	386,782	52
42	39	32,450	48	62	55	28,403	64	65	55	179,272	29
42	40	29,434	59	62	59	27,761	10	66	56	10,267	3
42	41	30,576	65	62	60	37,473	6				
42	42	31,047	25	62	61	23,748	7				
				62	62	14,005	1				

STAGE I POPULATION CHARACTERISTICS

PENSIONERS

AGE AT RETIRE- MENT	TOTAL ANNUAL PENSION	COUNT	AGE AT RETIRE- MENT	TOTAL ANNUAL PENSION	COUNT	AGE AT RETIRE- MENT	TOTAL ANNUAL PENSION	COUNT			
53	52	24,635	1	64	64	95,200	5	68	59	75,702	7
55	55	46,917	4	64	63	114,385	8	68	58	7,798	1
56	56	90,700	8	64	62	161,812	7	68	56	18,051	4
56	55	28,532	5	64	61	107,815	7	68	55	24,664	1
57	57	41,670	3	64	60	28,838	4	69	66	466,956	46
57	56	90,315	9	64	59	61,536	5	69	65	392,709	37
57	55	45,628	3	64	58	22,830	2	69	64	52,997	3
58	58	40,217	2	64	57	11,821	2	69	63	23,143	3
58	57	32,105	3	64	56	28,347	4	69	62	25,770	4
58	56	51,743	4	64	55	8,491	1	69	61	76,375	4
58	55	75,626	6	65	65	1,085,692	69	69	60	73,846	4
58	50	9,015	1	65	64	70,788	5	69	59	47,086	2
59	59	35,778	3	65	63	127,147	5	69	58	6,333	1
59	58	43,768	5	65	62	726,743	5	69	57	25,042	4
59	57	40,149	3	65	61	110,780	7	69	56	11,579	3
59	56	50,696	7	65	60	63,212	6	69	55	2,931	1
59	55	6,720	2	65	59	21,420	4	70	67	67,437	6
60	60	108,184	4	65	58	14,357	2	70	66	475,257	46
60	59	41,363	5	65	57	60,702	3	70	65	489,492	43
60	58	102,176	7	65	56	29,812	3	70	64	107,117	8
60	57	29,120	3	66	66	619,863	46	70	63	68,204	3
60	56	25,222	3	66	65	1,380,137	68	70	62	51,726	5
60	55	23,899	3	66	64	147,044	8	70	61	21,945	1
61	61	104,330	7	66	63	268,986	9	70	60	55,548	7
61	60	60,124	5	66	62	85,925	4	70	59	44,747	2
61	59	78,139	6	66	61	17,905	2	70	58	4,319	1
61	58	95,390	8	66	60	14,881	1	70	57	3,333	1
61	57	21,856	2	66	59	39,381	5	70	56	4,965	1
61	56	20,637	4	66	58	71,344	2	71	66	449,194	36
61	55	61,964	4	66	57	3,892	1	71	65	594,992	62
62	62	87,789	5	66	56	14,094	3	71	64	60,607	4
62	61	134,193	11	67	66	859,508	65	71	63	87,706	6
62	60	149,769	7	67	65	1,022,879	58	71	62	187,748	5
62	59	118,189	10	67	64	149,516	10	71	61	48,400	3
62	58	71,925	7	67	63	45,152	4	71	60	5,242	1
62	57	10,786	2	67	62	119,408	5	71	59	25,194	4
62	56	26,233	4	67	61	47,714	5	71	58	8,323	1
62	55	42,413	6	67	60	73,262	6	71	56	4,210	1
63	63	71,157	5	67	58	6,730	1	72	66	195,420	24
63	62	415,080	9	67	55	7,687	1	72	65	474,406	46
63	61	68,530	6	68	66	513,044	38	72	64	13,022	2
63	60	80,922	7	68	65	476,366	50	72	63	210,655	4
63	59	107,909	7	68	64	161,026	9	72	62	5,800	1
63	58	16,680	3	68	63	31,547	4	72	61	2,958	1
63	57	10,781	1	68	62	18,671	2	72	60	39,449	5
63	56	11,978	2	68	61	30,720	4	72	59	12,025	1
63	55	40,550	6	68	60	155,082	3	72	58	11,398	2
								72	57	4,181	1
								72	56	10,698	2

STAGE I POPULATION CHARACTERISTICS

PENSIONERS

AGE AT TOTAL				AGE AT TOTAL				AGE AT TOTAL			
ATTAINED	RETIRE-	ANNUAL	COUNT	ATTAINED	RETIRE-	ANNUAL	COUNT	ATTAINED	RETIRE-	ANNUAL	COUNT
AGE	MENT	PENSION		AGE	MENT	PENSION		AGE	MENT	PENSION	
73	67	53,678	1	76	55	2,720	1	82	66	181,491	11
73	66	482,291	37	77	66	235,617	22	82	65	119,863	11
73	65	440,228	36	77	65	357,077	26	82	63	13,090	1
73	64	177,596	3	77	64	47,963	1	82	61	11,998	1
73	63	140,721	4	77	62	163,481	5	82	60	11,099	1
73	61	36,326	3	77	61	28,666	2	82	59	2,363	1
73	60	64,009	3	77	59	8,688	2	83	66	22,151	4
73	59	8,132	2	77	58	4,904	1	83	65	181,311	10
73	58	38,116	4	77	56	3,729	1	83	63	12,829	1
73	57	7,728	2	77	55	28,689	1	83	62	12,658	1
73	56	5,851	2	78	67	5,322	1	83	61	3,251	1
74	68	4,470	1	78	66	131,110	15	83	60	19,552	1
74	66	161,165	17	78	65	576,399	26	84	66	96,473	9
74	65	543,450	31	78	64	6,016	1	84	65	29,595	5
74	64	23,653	3	78	63	17,335	2	84	63	13,680	1
74	63	39,883	3	78	61	32,991	3	84	61	26,357	2
74	62	13,860	2	78	60	91,397	4	85	80	45,698	1
74	61	45,435	5	78	57	7,757	2	85	67	2,130	1
74	60	109,785	4	79	66	154,165	17	85	66	57,865	9
74	59	6,770	1	79	65	230,763	22	85	65	97,533	7
74	58	3,317	1	79	64	119,635	4	86	68	4,358	1
74	57	12,675	3	79	63	129,724	4	86	66	92,317	3
74	56	3,020	1	79	60	84,683	2	86	65	36,269	2
74	55	3,183	1	79	59	4,902	1	87	66	33,197	2
75	66	375,950	27	79	58	11,410	2	87	62	13,131	1
75	65	251,272	20	80	70	19,945	1	87	86	13,926	1
75	64	37,911	1	80	67	9,537	2	87	65	15,875	4
75	63	24,069	2	80	66	159,342	12	88	65	120,111	8
75	62	5,765	1	80	65	500,692	23	88	64	14,086	1
75	61	15,207	1	80	63	19,643	3	88	63	14,481	1
75	60	8,958	2	80	61	5,110	1	89	66	33,093	1
75	59	3,936	1	80	60	13,971	1	89	65	34,919	2
75	58	6,949	2	80	59	3,062	1	90	69	4,980	1
75	57	5,234	1	80	57	6,238	1	90	66	3,490	1
75	56	35,168	2	81	71	70,715	1	90	65	12,452	1
75	55	3,529	1	81	66	51,284	7	91	66	57,756	1
76	68	5,607	1	81	65	235,681	15	92	66	18,025	1
76	67	5,274	1	81	63	77,289	1	93	71	2,177	1
76	66	569,178	19	81	62	8,087	1				
76	65	534,362	26	81	61	11,934	1				
76	64	5,228	1	81	56	2,395	1				
76	63	6,688	1								
76	62	12,832	1								
76	61	64,376	1								
76	60	34,771	3								
76	59	3,456	1								
76	58	6,688	2								
76	57	3,632	1								
76	56	4,902	1								

STAGE I TERMINATION RATES

ENTRY AGE	SERVICE									
-----	1	2	3	4	5	6	7	8	9	10+
18	0.17488	0.18737	0.13740	0.10992	0.10243	0.00000	0.00000	0.00000	0.00000	0.00000
19	0.17487	0.18736	0.13740	0.10991	0.10242	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.14739	0.15828	0.11071	0.07694	0.07794	0.07194	0.05985	0.05496	0.05476	0.05246
21	0.13390	0.13020	0.09682	0.07544	0.07744	0.07124	0.05805	0.05336	0.05306	0.04896
22	0.13549	0.13359	0.09742	0.07514	0.07694	0.07074	0.05765	0.05286	0.05256	0.04866
23	0.13819	0.13959	0.09532	0.07324	0.07434	0.06784	0.05505	0.04996	0.04966	0.04606
24	0.13959	0.14258	0.09422	0.07234	0.07304	0.06644	0.05375	0.04856	0.04826	0.04476
25	0.11211	0.11920	0.11101	0.09432	0.10371	0.10121	0.09332	0.08563	0.07673	0.06974
26	0.11260	0.12009	0.11190	0.09471	0.10421	0.10131	0.09342	0.08582	0.07673	0.06984
27	0.11300	0.12059	0.11230	0.09501	0.10450	0.10141	0.09351	0.08592	0.07663	0.06983
28	0.11309	0.12089	0.11259	0.09511	0.10460	0.10140	0.09351	0.08592	0.07663	0.06983
29	0.11309	0.12099	0.11259	0.09501	0.10460	0.10140	0.09351	0.08592	0.07663	0.06983
30	0.08991	0.09770	0.08472	0.08641	0.08821	0.08192	0.07293	0.07443	0.07083	0.06214
31	0.08981	0.09750	0.08451	0.08631	0.08811	0.08182	0.07283	0.07432	0.07073	0.06204
32	0.08961	0.09730	0.08441	0.08611	0.08791	0.08162	0.07272	0.07422	0.07063	0.06193
33	0.08950	0.09700	0.08421	0.08591	0.08771	0.08151	0.07262	0.07402	0.07042	0.06173
34	0.08930	0.09679	0.08401	0.08571	0.08750	0.08131	0.07252	0.07392	0.07032	0.06163
35	0.08620	0.09429	0.07332	0.06323	0.07551	0.07571	0.05663	0.06173	0.05883	0.04874
36	0.08600	0.09409	0.07321	0.06323	0.07541	0.07551	0.05653	0.06163	0.05873	0.04864
37	0.08580	0.09389	0.07311	0.06312	0.07521	0.07541	0.05653	0.06152	0.05853	0.04854
38	0.08569	0.09368	0.07301	0.06302	0.07510	0.07520	0.05643	0.06142	0.05843	0.04854
39	0.08569	0.09358	0.07300	0.06302	0.07510	0.07510	0.05642	0.06132	0.05842	0.04844
40	0.07658	0.08427	0.07469	0.07628	0.06780	0.06300	0.05871	0.05472	0.04932	0.03614
41	0.07647	0.08426	0.07467	0.07627	0.06769	0.06299	0.05870	0.05471	0.04932	0.03604
42	0.07645	0.08424	0.07466	0.07625	0.06767	0.06288	0.05859	0.05469	0.04920	0.03603
43	0.07653	0.08421	0.07463	0.07623	0.06765	0.06286	0.05857	0.05468	0.04929	0.03602
44	0.07650	0.08418	0.07461	0.07620	0.06763	0.06284	0.05855	0.05466	0.04927	0.03601
45	0.07408	0.07448	0.06950	0.07239	0.07219	0.06122	0.05274	0.05065	0.04237	0.03250
46	0.07416	0.07446	0.06947	0.07236	0.07217	0.06120	0.05273	0.05073	0.04236	0.03249
47	0.07413	0.07443	0.06945	0.07234	0.07224	0.06118	0.05271	0.05071	0.04234	0.02252
48	0.07410	0.07449	0.06941	0.07240	0.07220	0.06115	0.05268	0.05069	0.04242	0.03256
49	0.07415	0.07445	0.06938	0.07236	0.07216	0.06111	0.05265	0.05066	0.04240	0.03254
50	0.06854	0.06795	0.06188	0.05680	0.05800	0.05153	0.04486	0.03909	0.02706	0.01761
51	0.06850	0.06791	0.06184	0.05677	0.05796	0.05140	0.04484	0.03907	0.02704	0.01760
52	0.06847	0.06787	0.06181	0.05674	0.05793	0.05137	0.04481	0.03905	0.02702	0.01759
53	0.06841	0.06781	0.06176	0.05669	0.05788	0.05133	0.04468	0.03902	0.02700	0.01757
54	0.06835	0.06776	0.06160	0.05654	0.05773	0.05128	0.04464	0.03898	0.02698	0.01756
55	0.05878	0.05759	0.05303	0.05382	0.05511	0.05184	0.04410	0.03687	0.03657	0.03033
56	0.05872	0.05753	0.05298	0.05367	0.05506	0.05179	0.04406	0.03683	0.03654	0.03030
57	0.05867	0.05748	0.05293	0.05362	0.05491	0.05164	0.04392	0.03670	0.03650	0.03027
58	0.05863	0.05744	0.05279	0.05359	0.05487	0.05161	0.04389	0.03668	0.03648	0.03025
59	0.05858	0.05740	0.05275	0.05344	0.05473	0.05157	0.04386	0.03665	0.03645	0.03023
60	0.06110	0.05034	0.05212	0.05449	0.04975	0.04639	0.04550	0.03741	0.02921	0.02576
61	0.06105	0.05030	0.05207	0.05454	0.04980	0.04635	0.04546	0.03737	0.02919	0.02574
62	0.06109	0.05025	0.05212	0.05449	0.04976	0.04631	0.04542	0.03744	0.02916	0.02571
63	0.06113	0.05030	0.05217	0.05463	0.04991	0.04636	0.04557	0.03750	0.02913	0.02569
64	0.06156	0.05054	0.05251	0.05497	0.05025	0.04661	0.04592	0.03776	0.02920	0.02566

STAGE I
BEST ESTIMATE RESULTS
UNDER
DIFFERENT INFLATION RATES

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.1

Plan Type		-----							Assumptions -----
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	3.77	3.77	3.77	3.77	3.77	3.77	3.77	Economic CPI Interest Earnings
100/0/0	2)	3.77	3.77	3.77	3.77	3.77	3.77	3.77	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FB/NC/60	1)	9.55	9.55	9.55	9.55	9.55	9.55	9.55	Retroactivity None Partial Full
100/70/0	2)	9.55	9.55	9.55	9.55	9.55	9.55	9.55	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/C/65	1)	9.20	9.20	9.20	9.20	9.20	9.20	9.20	
0/0/0	2)	9.20	9.20	9.20	9.20	9.20	9.20	9.20	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/0/0	2)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/C/60-	1)	13.32	13.32	13.32	13.32	13.32	13.32	13.32	1)Pre-Cost 2)Post-Cost 3)Percent Increase
100/40/0	2)	13.32	13.32	13.32	13.32	13.32	13.32	13.32	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/NC/65	1)	5.88	5.88	5.88	5.88	5.88	5.88	5.88	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	5.88	5.88	5.88	5.88	5.88	5.88	5.88	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/NC/60	1)	8.77	8.77	8.77	8.77	8.77	8.77	8.77	Increased cost Includes UFL
100/40/0	2)	8.77	8.77	8.77	8.77	8.77	8.77	8.77	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/C/65	1)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	
100/0/0	2)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/C/60	1)	15.67	15.67	15.67	15.67	15.67	15.67	15.67	
100/40/0	2)	15.67	15.67	15.67	15.67	15.67	15.67	15.67	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/NC/65	1)	6.92	6.92	6.92	6.92	6.92	6.92	6.92	
100/0/0	2)	6.92	6.92	6.92	6.92	6.92	6.92	6.92	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/NC/60	1)	10.32	10.32	10.32	10.32	10.32	10.32	10.32	
100/40/0	2)	10.32	10.32	10.32	10.32	10.32	10.32	10.32	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FAP/C/65	1)	13.81	13.81	13.81	13.81	13.81	13.81	13.81	
100/40/0	2)	13.81	13.81	13.81	13.81	13.81	13.81	13.81	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FAP/C/60	1)	18.10	18.10	18.10	18.10	18.10	18.10	18.10	
100/70/0	2)	18.10	18.10	18.10	18.10	18.10	18.10	18.10	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.2

Plan Type		100%	60%	75%		100%		B.Y. -3.5%	F.R.		F.R. -7.0%	Assumptions
				-1.0%	-2.5%				-3.5%	-7.0%		
FB/NC/65 100/0/0	1)	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	Economic
	2)	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	CPI 0
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Interest 3
FB/NC/60 100/70/0	1)	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	Earnings 2
	2)	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55	Retroactivity
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	None
CA/C/65 0/0/0	1)	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	Partial *
	2)	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	9.20	Full
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/C/65 100/0/0	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
	2)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CA/C/60 100/40/0	1)	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	1)Pre-Cost
	2)	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	13.32	2)Post-Cost
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3)Percent Increase
CA/NC/65 100/0/0	1)	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	Pre-Cost and
	2)	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	Post-Cost
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	expressed as
CA/NC/60 100/40/0	1)	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	% of earnings
	2)	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	8.77	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Increased cost
FA/C/65 100/0/0	1)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	includes UFL
	2)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/C/60 100/40/0	1)	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	
	2)	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	15.67	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/NC/65 100/0/0	1)	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	
	2)	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FA/NC/60 100/40/0	1)	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	
	2)	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FAP/C/65 100/40/0	1)	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	
	2)	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	13.81	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FAP/C/60 100/70/0	1)	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	
	2)	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.3

Plan Type		STAGE I SUMMARY PLAN RESULTS							Assumptions
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	3.77	3.77	3.77	3.77	3.77	3.77	3.77	Economic
100/0/0	2)	6.62	5.25	5.17	5.30	5.10	5.93	4.92	CPI 0
	3)	75.60	39.26	37.14	40.58	35.28	57.29	30.50	Interest 3
									Earnings 2
FB/NC/60	1)	9.55	9.55	9.55	9.55	9.55	9.55	9.55	
100/70/0	2)	12.93	10.28	10.28	10.28	10.28	11.89	10.28	Retroactivity
	3)	35.39	7.64	7.64	7.64	7.64	24.50	7.64	None
									Partial
CA/C/65	1)	9.20	9.20	9.20	9.20	9.20	9.20	9.20	Full *
0/0/0	2)	11.45	10.37	10.30	10.41	10.25	10.90	10.11	
	3)	24.46	12.72	11.96	13.15	11.41	18.48	9.89	
CA/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/0/0	2)	12.26	10.96	10.89	11.02	10.83	11.62	10.65	
	3)	28.24	14.64	13.91	15.27	13.28	21.55	11.40	
CA/C/60	1)	13.32	13.32	13.32	13.32	13.32	13.32	13.32	
100/40/0	2)	16.18	14.39	14.29	14.46	14.20	15.29	13.97	1)Pre-Cost
	3)	21.47	8.03	7.28	8.56	6.61	14.79	4.88	2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	5.88	5.88	5.88	5.88	5.88	5.88	5.88	
100/0/0	2)	7.58	6.76	6.72	6.80	6.68	7.18	6.57	Pre-Cost and
	3)	28.91	14.97	14.29	15.65	13.61	22.11	11.73	Post-Cost
									expressed as
CA/NC/60	1)	8.77	8.77	8.77	8.77	8.77	8.77	8.77	% of earnings
100/40/0	2)	10.68	9.49	9.41	9.53	9.35	10.07	9.19	
	3)	21.78	8.21	7.30	8.67	6.61	14.82	4.79	Increased cost
									Includes UFL
FA/C/65	1)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	
100/0/0	2)	14.43	12.90	12.82	12.97	12.74	13.67	12.54	
	3)	28.27	14.67	13.96	15.29	13.24	21.51	11.47	
FA/C/60	1)	15.67	15.67	15.67	15.67	15.67	15.67	15.67	
100/40/0	2)	19.03	16.93	16.81	17.02	16.71	17.98	16.43	
	3)	21.44	8.04	7.28	8.62	6.64	14.74	4.85	
FA/NC/65	1)	6.92	6.92	6.92	6.92	6.92	6.92	6.92	
100/0/0	2)	7.95	7.46	7.43	7.48	7.41	7.71	7.34	
	3)	14.88	7.80	7.37	8.09	7.08	11.42	6.07	
FA/NC/60	1)	10.32	10.32	10.32	10.32	10.32	10.32	10.32	
100/40/0	2)	11.55	10.83	10.78	10.85	10.74	11.18	10.65	
	3)	11.92	4.94	4.46	5.14	4.07	8.33	3.20	
FAP/C/65	1)	13.81	13.81	13.81	13.81	13.81	13.81	13.81	
100/40/0	2)	17.05	15.00	14.66	14.80	14.59	15.46	14.40	
	3)	23.46	8.62	6.15	7.17	5.65	11.95	4.27	
FAP/C/60	1)	18.10	18.10	18.10	18.10	18.10	18.10	18.10	
100/70/0	2)	21.04	18.94	18.94	18.94	18.94	20.02	18.94	
	3)	16.24	4.64	4.64	4.64	4.64	10.61	4.64	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.4

Plan Type	100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65	1) 2.33	2.33	2.33	2.33	2.33	2.33	2.33	Economic
100/0/0	2) 3.55	2.98	2.75	2.50	2.89	3.34	2.33	CPI 3
	3) 52.36	27.90	18.03	7.30	24.03	43.35	0.00	Interest 3
								Earnings 2
FB/NC/60	1) 7.91	7.91	7.91	7.91	7.91	7.91	7.91	
100/70/0	2) 9.03	7.91	7.91	7.91	7.91	8.51	7.91	Retroactivity
	3) 14.16	0.00	0.00	0.00	0.00	7.59	0.00	None *
								Partial
CA/C/65	1) 5.68	5.68	5.68	5.68	5.68	5.68	5.68	Full
0/0/0	2) 6.95	6.30	6.08	5.84	6.21	6.71	5.68	
	3) 22.36	10.92	7.04	2.82	9.33	18.13	0.00	
CA/C/65	1) 6.57	6.57	6.57	6.57	6.57	6.57	6.57	
100/0/0	2) 9.08	8.11	7.44	6.91	7.85	8.80	6.57	
	3) 38.20	23.44	13.24	5.18	19.48	33.94	0.00	
CA/C/60	1) 10.18	10.18	10.18	10.18	10.18	10.18	10.18	
100/40/0	2) 12.61	11.11	10.28	10.18	10.79	12.13	10.18	1)Pre-Cost
	3) 23.87	9.14	0.98	0.00	5.99	19.16	0.00	2)Post-Cost
								3)Percent Increase
CA/NC/65	1) 3.68	3.68	3.68	3.68	3.68	3.68	3.68	
100/0/0	2) 5.56	4.68	4.34	3.94	4.55	5.24	3.68	Pre-Cost and
	3) 51.09	27.17	17.93	7.07	23.64	42.39	0.00	Post-Cost
								expressed as
CA/NC/60	1) 6.55	6.55	6.55	6.55	6.55	6.55	6.55	% of earnings
100/40/0	2) 8.28	7.11	6.61	6.55	6.91	7.86	6.55	
	3) 26.41	8.55	0.92	0.00	5.50	20.00	0.00	Increased cost
								includes UFL
FA/C/65	1) 7.73	7.73	7.73	7.73	7.73	7.73	7.73	
100/0/0	2) 10.68	9.54	8.75	8.13	9.23	10.35	7.73	
	3) 38.16	23.42	13.20	5.17	19.40	33.89	0.00	
FA/C/60	1) 11.98	11.98	11.98	11.98	11.98	11.98	11.98	
100/40/0	2) 14.84	13.07	12.09	11.98	12.69	14.27	11.98	
	3) 23.87	9.10	0.92	0.00	5.93	19.12	0.00	
FA/NC/65	1) 4.33	4.33	4.33	4.33	4.33	4.33	4.33	
100/0/0	2) 6.54	5.51	5.10	4.64	5.35	6.16	4.33	
	3) 51.04	27.25	17.78	7.16	23.56	42.26	0.00	
FA/NC/60	1) 7.71	7.71	7.71	7.71	7.71	7.71	7.71	
100/40/0	2) 9.74	8.36	7.78	7.71	8.13	9.25	7.71	
	3) 26.33	8.43	0.91	0.00	5.45	19.97	0.00	
FAP/C/65	1) 10.81	10.81	10.81	10.81	10.81	10.81	10.81	
100/40/0	2) 13.15	11.49	10.88	10.81	11.25	12.53	10.81	
	3) 21.65	6.29	0.65	0.00	4.07	15.91	0.00	
FAP/C/60	1) 15.33	15.33	15.33	15.33	15.33	15.33	15.33	
100/70/0	2) 17.17	15.33	15.33	15.33	15.33	16.31	15.33	
	3) 12.00	0.00	0.00	0.00	0.00	6.39	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.5

Plan Type		STAGE I SUMMARY PLAN RESULTS							Assumptions
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65 100/0/0	1)	2.33	2.33	2.33	2.33	2.33	2.33	2.33	Economic
	2)	5.50	4.05	3.49	2.80	3.83	4.96	2.33	CPI 3
	3)	136.05	73.82	49.79	20.17	64.38	112.88	0.00	Interest 3
FB/NC/60 100/70/0	1)	7.91	7.91	7.91	7.91	7.91	7.91	7.91	Earnings 2
	2)	10.90	8.05	8.05	8.05	8.05	9.57	8.05	Retroactivity
	3)	37.80	1.77	1.77	1.77	1.77	20.99	1.77	None
CA/C/65 0/0/0	1)	5.68	5.68	5.68	5.68	5.68	5.68	5.68	Partial *
	2)	8.16	7.01	6.59	6.05	6.84	7.74	5.68	Full
	3)	43.66	23.42	16.02	6.51	20.42	36.27	0.00	
CA/C/65 100/0/0	1)	6.57	6.57	6.57	6.57	6.57	6.57	6.57	
	2)	12.28	10.01	8.62	7.38	9.47	11.58	6.57	
	3)	86.91	52.36	31.20	12.33	44.14	76.26	0.00	
CA/C/60 100/40/0	1)	10.18	10.18	10.18	10.18	10.18	10.18	10.18	1)Pre-Cost
	2)	15.56	12.15	10.44	10.24	11.49	14.42	10.24	2)Post-Cost
	3)	52.85	19.35	2.55	0.59	12.87	41.65	0.59	3)Percent Increase
CA/NC/65 100/0/0	1)	3.68	3.68	3.68	3.68	3.68	3.68	3.68	
	2)	7.74	5.83	5.14	4.26	5.56	7.03	3.68	Pre-Cost and
	3)	110.33	58.42	39.67	15.76	51.09	91.03	0.00	Post-Cost
CA/NC/60 100/40/0	1)	6.55	6.55	6.55	6.55	6.55	6.55	6.55	expressed as
	2)	10.29	7.73	6.71	6.59	7.33	9.35	6.59	% of earnings
	3)	57.10	18.02	2.44	0.61	11.91	42.75	0.61	Increased cost
FA/C/65 100/0/0	1)	7.73	7.73	7.73	7.73	7.73	7.73	7.73	Includes UFL
	2)	14.43	11.77	10.13	8.68	11.13	13.62	7.73	
	3)	86.93	52.26	31.05	12.29	43.98	76.20	0.00	
FA/C/60 100/40/0	1)	11.98	11.98	11.98	11.98	11.98	11.98	11.98	
	2)	18.31	14.29	12.28	12.05	13.51	16.96	12.05	
	3)	52.84	19.28	2.50	0.58	12.77	41.57	0.58	
FA/NC/65 100/0/0	1)	4.33	4.33	4.33	4.33	4.33	4.33	4.33	
	2)	8.78	6.67	5.91	4.97	6.37	7.98	4.33	
	3)	102.77	54.04	36.49	14.78	47.11	84.30	0.00	
FA/NC/60 100/40/0	1)	7.71	7.71	7.71	7.71	7.71	7.71	7.71	
	2)	11.78	8.98	7.88	7.75	8.55	10.76	7.75	
	3)	52.79	16.47	2.20	0.52	10.89	39.56	0.52	
FAP/C/65 100/40/0	1)	10.81	10.81	10.81	10.81	10.81	10.81	10.81	
	2)	16.44	12.57	11.09	10.92	11.99	15.02	10.92	
	3)	52.08	16.28	2.59	1.02	10.92	38.95	1.02	
FAP/C/60 100/70/0	1)	15.33	15.33	15.33	15.33	15.33	15.33	15.33	
	2)	19.63	15.50	15.50	15.50	15.50	17.70	15.50	
	3)	28.05	1.11	1.11	1.11	1.11	15.46	1.11	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.6

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions	
FB/NC/65	1)	2.33	2.33	2.33	2.33	2.33	2.33	2.33	Economic	
100/0/0	2)	7.98	5.37	4.79	4.21	5.11	7.25	3.39	CPI	3
	3)	242.49	130.47	105.58	80.69	119.31	211.16	45.49	Interest Earnings	3 2
FB/NC/60	1)	7.91	7.91	7.91	7.91	7.91	7.91	7.91		
100/70/0	2)	14.23	8.76	8.76	8.76	8.76	12.43	8.76	Retroactivity	
	3)	79.90	10.75	10.75	10.75	10.75	57.14	10.75	None Partial	
CA/C/65	1)	5.68	5.68	5.68	5.68	5.68	5.68	5.68	Full	*
0/0/0	2)	10.11	7.98	7.56	7.10	7.78	9.49	6.47		
	3)	77.99	40.49	33.10	25.00	36.97	67.08	13.91		
CA/C/65	1)	6.57	6.57	6.57	6.57	6.57	6.57	6.57		
100/0/0	2)	14.92	11.31	9.92	8.80	10.73	13.95	7.63		
	3)	127.09	72.15	50.99	33.94	63.32	112.33	16.13		
CA/C/60	1)	10.18	10.18	10.18	10.18	10.18	10.18	10.18		
100/40/0	2)	18.35	13.08	11.46	11.46	12.39	16.86	10.89	1)Pre-Cost	
	3)	80.26	28.49	12.57	12.57	21.71	65.62	6.97	2)Post-Cost	
									3)Percent Increase	
CA/NC/65	1)	3.68	3.68	3.68	3.68	3.68	3.68	3.68		
100/0/0	2)	9.30	6.63	5.91	5.10	6.33	8.46	4.31	Pre-Cost and	
	3)	152.72	80.16	60.60	38.59	72.01	129.89	17.12	Post-Cost expressed as	
									% of earnings	
CA/NC/60	1)	6.55	6.55	6.55	6.55	6.55	6.55	6.55		
100/40/0	2)	12.14	8.41	7.39	7.40	7.97	11.02	7.02		
	3)	85.34	28.40	12.82	12.98	21.68	68.24	7.18	Increased cost Includes UFL	
FA/C/65	1)	7.73	7.73	7.73	7.73	7.73	7.73	7.73		
100/0/0	2)	17.55	13.30	11.66	10.35	12.62	16.40	8.98		
	3)	127.04	72.06	50.84	33.89	63.26	112.16	16.17		
FA/C/60	1)	11.98	11.98	11.98	11.98	11.98	11.98	11.98		
100/40/0	2)	21.59	15.38	13.48	13.49	14.57	19.83	12.81		
	3)	80.22	28.38	12.52	12.60	21.62	65.53	6.93		
FA/NC/65	1)	4.33	4.33	4.33	4.33	4.33	4.33	4.33		
100/0/0	2)	9.79	7.17	6.38	5.48	6.85	8.89	4.71		
	3)	126.10	65.59	47.34	26.56	58.20	105.31	8.78		
FA/NC/60	1)	7.71	7.71	7.71	7.71	7.71	7.71	7.71		
100/40/0	2)	13.03	9.46	8.36	8.31	9.01	11.88	8.07		
	3)	69.00	22.70	8.43	7.78	16.86	54.09	4.67		
FAP/C/65	1)	10.81	10.81	10.81	10.81	10.81	10.81	10.81		
100/40/0	2)	19.85	13.80	12.06	12.00	13.09	18.03	11.53		
	3)	83.63	27.66	11.56	11.01	21.09	66.79	6.66		
FAP/C/60	1)	15.33	15.33	15.33	15.33	15.33	15.33	15.33		
100/70/0	2)	22.68	16.33	16.33	16.33	16.33	20.26	16.33		
	3)	47.95	6.52	6.52	6.52	6.52	32.16	6.52		

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.7

Plan Type		-----							Assumptions -----
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	1.79	1.79	1.79	1.79	1.79	1.79	1.79	Economic
100/0/0	2)	3.42	2.60	2.51	2.43	2.83	3.27	2.07	CPI 5
	3)	91.06	45.25	40.22	35.75	58.10	82.68	15.64	Interest 3
									Earnings 2
FB/NC/60	1)	7.04	7.04	7.04	7.04	7.04	7.04	7.04	
100/70/0	2)	8.70	7.04	7.04	7.04	7.21	8.31	7.04	Retroactivity
	3)	23.58	0.00	0.00	0.00	2.41	18.04	0.00	None *
									Partial
CA/C/65	1)	4.91	4.91	4.91	4.91	4.91	4.91	4.91	Full
0/0/0	2)	6.16	5.52	5.45	5.39	5.70	6.04	5.11	
	3)	25.46	12.42	11.00	9.78	16.09	23.01	4.07	
CA/C/65	1)	5.52	5.52	5.52	5.52	5.52	5.52	5.52	
100/0/0	2)	8.78	7.36	7.12	6.89	7.92	8.56	6.04	
	3)	59.06	33.33	28.99	24.82	43.48	55.07	9.42	
CA/C/60	1)	8.82	8.82	8.82	8.82	8.82	8.82	8.82	
100/40/0	2)	12.20	10.04	9.73	9.43	10.80	11.83	8.82	1)Pre-Cost
	3)	38.32	13.83	10.32	6.92	22.45	34.13	0.00	2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.83	2.83	2.83	2.83	2.83	2.83	2.83	
100/0/0	2)	5.36	4.08	3.96	3.83	4.44	5.12	3.26	Pre-Cost and
	3)	89.40	44.17	39.93	35.34	56.89	80.92	15.19	Post-Cost
									expressed as
CA/NC/60	1)	5.53	5.53	5.53	5.53	5.53	5.53	5.53	% of earnings
100/40/0	2)	7.99	6.28	6.09	5.90	6.78	7.68	5.53	
	3)	44.48	13.56	10.13	6.69	22.60	38.88	0.00	Increased cost
									includes UFL
FA/C/65	1)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
100/0/0	2)	10.33	8.66	8.38	8.10	9.32	10.07	7.10	
	3)	58.92	33.23	28.92	24.62	43.38	54.92	9.23	
FA/C/60	1)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	
100/40/0	2)	14.35	11.81	11.45	11.09	12.70	13.92	10.38	
	3)	38.25	13.78	10.31	6.84	22.35	34.10	0.00	
FA/NC/65	1)	3.33	3.33	3.33	3.33	3.33	3.33	3.33	
100/0/0	2)	6.31	4.80	4.65	4.51	5.22	6.03	3.84	
	3)	89.49	44.14	39.64	35.44	56.76	81.08	15.32	
FA/NC/60	1)	6.51	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0	2)	9.40	7.38	7.17	6.95	7.98	9.03	6.51	
	3)	44.39	13.36	10.14	6.76	22.58	38.71	0.00	
FAP/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0	2)	12.76	10.43	10.21	9.99	11.05	12.32	9.56	
	3)	33.47	9.10	6.80	4.50	15.59	28.87	0.00	
FAP/C/60	1)	13.96	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0	2)	16.62	13.96	13.96	13.96	14.23	16.00	13.96	
	3)	19.05	0.00	0.00	0.00	1.93	14.61	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.8

Plan Type		STAGE I SUMMARY PLAN RESULTS							Assumptions
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	1.79	1.79	1.79	1.79	1.79	1.79	1.79	Economic
100/0/0	2)	6.09	4.00	3.79	3.58	4.57	5.70	2.59	CPI 5
	3)	240.22	123.46	111.73	100.00	155.31	218.44	44.69	Interest 3
									Earnings 2
FB/NC/60	1)	7.04	7.04	7.04	7.04	7.04	7.04	7.04	Retroactivity None
100/70/0	2)	11.50	7.24	7.24	7.24	7.67	10.50	7.24	
	3)	63.35	2.84	2.84	2.84	8.95	49.15	2.84	
CA/C/65	1)	4.91	4.91	4.91	4.91	4.91	4.91	4.91	Partial *
0/0/0	2)	7.88	6.43	6.29	6.15	6.84	7.61	5.46	Full
	3)	60.49	30.96	28.11	25.25	39.31	54.99	11.20	
CA/C/65	1)	5.52	5.52	5.52	5.52	5.52	5.52	5.52	1)Pre-Cost 2)Post-Cost 3)Percent Increase
100/0/0	2)	13.18	9.79	9.29	8.79	11.03	12.63	6.83	
	3)	138.77	77.36	68.30	59.24	99.82	128.80	23.73	
CA/C/60	1)	8.82	8.82	8.82	8.82	8.82	8.82	8.82	Pre-Cost and Post-Cost expressed as % of earnings
100/40/0	2)	16.42	11.45	10.81	10.18	13.10	15.55	8.90	
	3)	86.17	29.82	22.56	15.42	48.53	76.30	0.91	
CA/NC/65	1)	2.83	2.83	2.83	2.83	2.83	2.83	2.83	Increased cost Includes UFL
100/0/0	2)	8.35	5.57	5.32	5.05	6.32	7.82	3.81	
	3)	195.05	96.82	87.99	78.45	123.32	176.33	34.63	
CA/NC/60	1)	5.53	5.53	5.53	5.53	5.53	5.53	5.53	
100/40/0	2)	10.89	7.13	6.74	6.35	8.19	10.19	5.58	
	3)	96.93	28.93	21.88	14.83	48.10	84.27	0.90	
FA/C/65	1)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
100/0/0	2)	15.51	11.52	10.93	10.34	12.98	14.86	8.03	
	3)	138.62	77.23	68.15	59.08	99.69	128.62	23.54	
FA/C/60	1)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	
100/40/0	2)	19.31	13.47	12.72	11.97	15.40	18.29	10.47	
	3)	86.03	29.77	22.54	15.32	48.36	76.20	0.87	
FA/NC/65	1)	3.33	3.33	3.33	3.33	3.33	3.33	3.33	
100/0/0	2)	9.40	6.29	6.01	5.74	7.11	8.81	4.39	
	3)	182.28	88.89	80.48	72.37	113.51	164.56	31.83	
FA/NC/60	1)	6.51	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0	2)	12.35	8.22	7.82	7.40	9.39	11.58	6.56	
	3)	89.71	26.27	20.12	13.67	44.24	77.88	0.77	
FAP/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0	2)	17.49	11.91	11.36	10.80	13.45	16.45	9.71	
	3)	82.95	24.58	18.83	12.97	40.69	72.07	1.57	
FAP/C/60	1)	13.96	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0	2)	20.27	14.19	14.19	14.19	14.80	18.85	14.19	
	3)	45.20	1.65	1.65	1.65	6.02	35.03	1.65	

STAGE I SUMMARY PLAN RESULTS								TABLE I.A.9	
Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65	1)	1.79	1.79	1.79	1.79	1.79	1.79	1.79	Economic
100/0/0	2)	8.42	5.24	5.06	4.95	5.83	7.90	3.58	CPI
	3)	370.39	192.74	182.68	176.54	225.70	341.34	100.00	Interest
									Earnings
FB/NC/60	1)	7.04	7.04	7.04	7.04	7.04	7.04	7.04	
100/70/0	2)	14.78	7.92	7.92	7.92	8.38	13.41	7.92	Retroactivity
	3)	109.94	12.50	12.50	12.50	19.03	90.48	12.50	None
CA/C/65	1)	4.91	4.91	4.91	4.91	4.91	4.91	4.91	Partial
0/0/0	2)	10.01	7.45	7.34	7.29	7.89	9.59	6.29	Full
	3)	103.87	51.73	49.49	48.47	60.69	95.32	28.11	
CA/C/65	1)	5.52	5.52	5.52	5.52	5.52	5.52	5.52	
100/0/0	2)	15.90	11.09	10.63	10.24	12.37	15.15	7.89	
	3)	188.04	100.91	92.57	85.51	124.09	174.46	42.93	
CA/C/60	1)	8.82	8.82	8.82	8.82	8.82	8.82	8.82	
100/40/0	2)	19.19	12.35	11.79	11.39	13.98	18.08	9.54	1)Pre-Cost
	3)	117.57	40.02	33.67	29.14	58.50	104.99	8.16	2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.83	2.83	2.83	2.83	2.83	2.83	2.83	
100/0/0	2)	9.87	6.33	6.10	5.89	7.10	9.24	4.41	Pre-Cost and
	3)	248.76	123.67	115.55	108.13	150.88	226.50	55.83	Post-Cost
									expressed as
CA/NC/60	1)	5.53	5.53	5.53	5.53	5.53	5.53	5.53	% of earnings
100/40/0	2)	12.70	7.77	7.43	7.19	8.82	11.86	6.01	
	3)	129.66	40.51	34.36	30.02	59.49	114.47	8.68	Increased cost
									includes UFL
FA/C/65	1)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
100/0/0	2)	18.71	13.05	12.50	12.05	14.56	17.83	9.28	
	3)	187.85	100.77	92.31	85.38	124.00	174.31	42.77	
FA/C/60	1)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	
100/40/0	2)	22.57	14.52	13.87	13.40	16.43	21.26	11.23	
	3)	117.44	39.88	33.62	29.09	58.29	104.82	8.19	
FA/NC/65	1)	3.33	3.33	3.33	3.33	3.33	3.33	3.33	
100/0/0	2)	10.42	6.76	6.48	6.24	7.61	9.75	4.73	
	3)	212.91	103.00	94.59	87.39	128.53	192.79	42.04	
FA/NC/60	1)	6.51	6.51	6.51	6.51	6.51	6.51	6.51	
100/40/0	2)	13.60	8.68	8.31	7.97	9.85	12.73	6.88	
	3)	108.91	33.33	27.65	22.43	51.31	95.55	5.68	
FAP/C/65	1)	9.56	9.56	9.56	9.56	9.56	9.56	9.56	
100/40/0	2)	21.12	13.17	12.64	12.21	14.83	19.78	10.35	
	3)	120.92	37.76	32.22	27.72	55.13	106.90	8.26	
FAP/C/60	1)	13.96	13.96	13.96	13.96	13.96	13.96	13.96	
100/70/0	2)	23.37	14.99	14.99	14.99	15.66	21.60	14.99	
	3)	67.41	7.38	7.38	7.38	12.18	54.73	7.38	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.10

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65 1)		1.42	1.42	1.42	1.42	1.42	1.42	1.42	Economic
100/0/0 2)		3.31	2.28	2.30	2.36	2.81	3.20	2.02	CPI 7
3)		133.10	60.56	61.97	66.20	97.89	125.35	42.25	Interest 3
FB/NC/60 1)		6.32	6.32	6.32	6.32	6.32	6.32	6.32	Earnings 2
100/70/0 2)		8.41	6.32	6.32	6.32	7.16	8.13	6.32	Retroactivity
3)		33.07	0.00	0.00	0.00	13.29	28.64	0.00	None *
CA/C/65 1)		4.50	4.50	4.50	4.50	4.50	4.50	4.50	Partial
0/0/0 2)		5.65	5.03	5.05	5.08	5.35	5.58	4.87	Full
3)		25.56	11.78	12.22	12.89	18.89	24.00	8.22	
CA/C/65 1)		4.84	4.84	4.84	4.84	4.84	4.84	4.84	
100/0/0 2)		8.51	6.78	6.83	6.99	7.78	8.35	6.04	
3)		75.83	40.08	41.12	44.42	60.74	72.52	24.79	
CA/C/60 1)		7.79	7.79	7.79	7.79	7.79	7.79	7.79	
100/40/0 2)		11.79	9.18	9.25	9.45	10.64	11.53	8.21	1)Pre-Cost
3)		51.35	17.84	18.74	21.31	36.59	48.01	5.39	2)Post-Cost
CA/NC/65 1)		2.25	2.25	2.25	2.25	2.25	2.25	2.25	3)Percent Increase
100/0/0 2)		5.19	3.60	3.63	3.72	4.41	5.01	3.19	Pre-Cost and
3)		130.67	60.00	61.33	65.33	96.00	122.67	41.78	Post-Cost
CA/NC/60 1)		4.73	4.73	4.73	4.73	4.73	4.73	4.73	expressed as
100/40/0 2)		7.72	5.61	5.66	5.79	6.72	7.50	5.00	% of earnings
3)		63.21	18.60	19.66	22.41	42.07	58.56	5.71	Increased cost
FA/C/65 1)		5.69	5.69	5.69	5.69	5.69	5.69	5.69	includes UFL
100/0/0 2)		10.01	7.97	8.03	8.22	9.16	9.82	7.11	
3)		75.92	40.07	41.12	44.46	60.98	72.58	24.96	
FA/C/60 1)		9.17	9.17	9.17	9.17	9.17	9.17	9.17	
100/40/0 2)		13.87	10.80	10.88	11.12	12.51	13.57	9.66	
3)		51.25	17.78	18.65	21.26	36.42	47.98	5.34	
FA/NC/65 1)		2.65	2.65	2.65	2.65	2.65	2.65	2.65	
100/0/0 2)		6.10	4.24	4.27	4.37	5.19	5.90	3.76	
3)		130.19	60.00	61.13	64.91	95.85	122.64	41.89	
FA/NC/60 1)		5.57	5.57	5.57	5.57	5.57	5.57	5.57	
100/40/0 2)		9.08	6.60	6.66	6.81	7.90	8.82	5.88	
3)		63.02	18.49	19.57	22.26	41.83	58.35	5.57	
FAP/C/65 1)		8.75	8.75	8.75	8.75	8.75	8.75	8.75	
100/40/0 2)		12.40	9.63	9.67	9.81	11.00	12.09	9.01	
3)		41.71	10.06	10.51	12.11	25.71	38.17	2.97	
FAP/C/60 1)		12.82	12.82	12.82	12.82	12.82	12.82	12.82	
100/70/0 2)		16.10	12.82	12.82	12.82	14.13	15.66	12.82	
3)		25.59	0.00	0.00	0.00	10.22	22.15	0.00	

STAGE I SUMMARY PLAN RESULTS								TABLE I.A.11	
Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65	1)	1.42	1.42	1.42	1.42	1.42	1.42	1.42	Economic
100/0/0	2)	6.43	3.84	3.89	4.03	5.16	6.15	3.19	CPI
	3)	352.82	170.42	173.94	183.80	263.38	333.10	124.65	Interest
									Earnings
FB/NC/60	1)	6.32	6.32	6.32	6.32	6.32	6.32	6.32	
100/70/0	2)	11.93	6.53	6.53	6.53	8.69	11.21	6.53	Retroactivity
	3)	88.77	3.32	3.32	3.32	37.50	77.37	3.32	None
CA/C/65	1)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	Partial
0/0/0	2)	7.75	6.10	6.14	6.23	6.95	7.57	5.67	Full
	3)	72.22	35.56	36.44	38.44	54.44	68.22	26.00	
CA/C/65	1)	4.84	4.84	4.84	4.84	4.84	4.84	4.84	
100/0/0	2)	13.73	9.51	9.62	9.96	11.88	13.32	7.89	
	3)	183.68	96.49	98.76	105.79	145.45	175.21	63.02	
CA/C/60	1)	7.79	7.79	7.79	7.79	7.79	7.79	7.79	
100/40/0	2)	16.92	10.85	11.00	11.44	14.17	16.30	8.76	1)Pre-Cost
	3)	117.20	39.28	41.21	46.85	81.90	109.24	12.45	2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.25	2.25	2.25	2.25	2.25	2.25	2.25	
100/0/0	2)	8.72	5.26	5.32	5.50	7.00	8.33	4.42	Pre-Cost and
	3)	287.56	133.78	136.44	144.44	211.11	270.22	96.44	Post-Cost
									expressed as
CA/NC/60	1)	4.73	4.73	4.73	4.73	4.73	4.73	4.73	% of earnings
100/40/0	2)	11.26	6.62	6.72	7.00	9.03	10.76	5.34	
	3)	138.05	39.96	42.07	47.99	90.91	127.48	12.90	Increased cost
									includes UFL
FA/C/65	1)	5.69	5.69	5.69	5.69	5.69	5.69	5.69	
100/0/0	2)	16.15	11.18	11.31	11.72	13.98	15.67	9.29	
	3)	183.83	96.49	98.77	105.98	145.69	175.40	63.27	
FA/C/60	1)	9.17	9.17	9.17	9.17	9.17	9.17	9.17	
100/40/0	2)	19.90	12.76	12.94	13.46	16.66	19.18	10.31	
	3)	117.01	39.15	41.11	46.78	81.68	109.16	12.43	
FA/NC/65	1)	2.65	2.65	2.65	2.65	2.65	2.65	2.65	
100/0/0	2)	9.75	5.90	5.96	6.15	7.83	9.33	4.98	
	3)	267.92	122.64	124.91	132.08	195.47	252.08	87.92	
FA/NC/60	1)	5.57	5.57	5.57	5.57	5.57	5.57	5.57	
100/40/0	2)	12.69	7.60	7.71	8.00	10.23	12.15	6.22	
	3)	127.83	36.45	38.42	43.63	83.66	118.13	11.67	
FAP/C/65	1)	8.75	8.75	8.75	8.75	8.75	8.75	8.75	
100/40/0	2)	18.12	11.27	11.39	11.74	14.71	17.36	9.64	
	3)	107.09	28.80	30.17	34.17	68.11	98.40	10.17	
FAP/C/60	1)	12.82	12.82	12.82	12.82	12.82	12.82	12.82	
100/70/0	2)	20.69	13.08	13.08	13.08	16.12	19.67	13.08	
	3)	61.39	2.03	2.03	2.03	25.74	53.43	2.03	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.12

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65		1.42	1.42	1.42	1.42	1.42	1.42	1.42	Economic
100/0/0	1)	8.64	5.01	5.10	5.36	6.39	8.25	4.15	CPI 7
	2)	508.45	252.82	259.15	277.46	350.00	480.99	192.25	Interest 3
FB/NC/60		6.32	6.32	6.32	6.32	6.32	6.32	6.32	Earnings 2
100/70/0	1)	15.15	7.18	7.18	7.18	9.37	14.09	7.18	Retroactivity
	2)	139.72	13.61	13.61	13.61	48.26	122.94	13.61	None
CA/C/65		4.50	4.50	4.50	4.50	4.50	4.50	4.50	Partial
0/0/0	1)	10.14	7.21	7.29	7.49	8.20	9.82	6.58	Full *
	2)	125.33	60.22	62.00	66.44	82.22	118.22	46.22	
CA/C/65		4.84	4.84	4.84	4.84	4.84	4.84	4.84	
100/0/0	1)	16.61	10.85	11.01	11.49	13.40	16.03	8.99	
	2)	243.18	124.17	127.48	137.40	176.86	231.20	85.74	
CA/C/60		7.79	7.79	7.79	7.79	7.79	7.79	7.79	
100/40/0	1)	19.67	11.71	11.93	12.58	15.10	18.85	9.36	1)Pre-Cost
	2)	152.50	50.32	53.15	61.49	93.84	141.98	20.15	2)Post-Cost
CA/NC/65		2.25	2.25	2.25	2.25	2.25	2.25	2.25	3)Percent Increase
100/0/0	1)	10.21	5.98	6.06	6.32	7.80	9.73	4.99	Pre-Cost and
	2)	353.78	165.78	169.33	180.89	246.67	332.44	121.78	Post-Cost
CA/NC/60		4.73	4.73	4.73	4.73	4.73	4.73	4.73	expressed as
100/40/0	1)	13.02	7.23	7.38	7.81	9.66	12.40	5.74	% of earnings
	2)	175.26	52.85	56.03	65.12	104.23	162.16	21.35	Increased cost
FA/C/65		5.69	5.69	5.69	5.69	5.69	5.69	5.69	includes UFL
100/0/0	1)	19.54	12.76	12.94	13.52	15.76	18.86	10.58	
	2)	243.41	124.25	127.42	137.61	176.98	231.46	85.94	
FA/C/60		9.17	9.17	9.17	9.17	9.17	9.17	9.17	
100/40/0	1)	23.14	13.78	14.04	14.80	17.75	22.17	11.02	
	2)	152.34	50.27	53.11	61.40	93.57	141.77	20.17	
FA/NC/65		2.65	2.65	2.65	2.65	2.65	2.65	2.65	
100/0/0	1)	10.78	6.34	6.42	6.66	8.36	10.29	5.32	
	2)	306.79	139.25	142.26	151.32	215.47	288.30	100.75	
FA/NC/60		5.57	5.57	5.57	5.57	5.57	5.57	5.57	
100/40/0	1)	13.94	8.03	8.17	8.55	10.70	13.31	6.52	
	2)	150.27	44.17	46.68	53.50	92.10	138.96	17.06	
FAP/C/65		8.75	8.75	8.75	8.75	8.75	8.75	8.75	
100/40/0	1)	22.13	12.60	12.81	13.45	16.33	21.08	10.43	
	2)	152.91	44.00	46.40	53.71	86.63	140.91	19.20	
FAP/C/60		12.82	12.82	12.82	12.82	12.82	12.82	12.82	
100/70/0	1)	23.83	13.85	13.85	13.85	17.07	22.49	13.85	
	2)	85.88	8.03	8.03	8.03	33.15	75.43	8.03	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.13

Plan Type		STAGE I SUMMARY PLAN RESULTS							Assumptions
		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	1.16	1.16	1.16	1.16	1.16	1.16	1.16	Economic
100/0/0	2)	3.20	2.03	2.11	2.29	2.75	3.10	2.01	CPI 9
	3)	175.86	75.00	81.90	97.41	137.07	167.24	73.28	Interest 3
									Earnings 2
FB/NC/60	1)	5.70	5.70	5.70	5.70	5.70	5.70	5.70	
100/70/0	2)	8.13	5.70	5.70	5.86	7.00	7.89	5.70	Retroactivity
	3)	42.63	0.00	0.00	2.81	22.81	38.42	0.00	None *
									Partial
CA/C/65	1)	4.25	4.25	4.25	4.25	4.25	4.25	4.25	Full
0/0/0	2)	5.29	4.71	4.76	4.85	5.07	5.24	4.70	
	3)	24.47	10.82	12.00	14.12	19.29	23.29	10.59	
CA/C/65	1)	4.46	4.46	4.46	4.46	4.46	4.46	4.46	
100/0/0	2)	8.26	6.31	6.53	6.96	7.61	8.12	6.26	
	3)	85.20	41.48	46.41	56.05	70.63	82.06	40.36	
CA/C/60	1)	7.01	7.01	7.01	7.01	7.01	7.01	7.01	
100/40/0	2)	11.42	8.43	8.71	9.29	10.36	11.20	8.36	1)Pre-Cost
	3)	62.91	20.26	24.25	32.52	47.79	59.77	19.26	2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	1.84	1.84	1.84	1.84	1.84	1.84	1.84	
100/0/0	2)	5.01	3.20	3.33	3.61	4.31	4.86	3.17	Pre-Cost and
	3)	172.28	73.91	80.98	96.20	134.24	164.13	72.28	Post-Cost
									expressed as
CA/NC/60	1)	4.11	4.11	4.11	4.11	4.11	4.11	4.11	% of earnings
100/40/0	2)	7.46	5.00	5.18	5.58	6.52	7.26	4.96	
	3)	81.51	21.65	26.03	35.77	58.64	76.64	20.68	Increased cost
									includes UFL
FA/C/65	1)	5.25	5.25	5.25	5.25	5.25	5.25	5.25	
100/0/0	2)	9.72	7.43	7.69	8.19	8.95	9.56	7.36	
	3)	85.14	41.52	46.48	56.00	70.48	82.10	40.19	
FA/C/60	1)	8.25	8.25	8.25	8.25	8.25	8.25	8.25	
100/40/0	2)	13.44	9.92	10.25	10.93	12.18	13.17	9.83	
	3)	62.91	20.24	24.24	32.48	47.64	59.64	19.15	
FA/NC/65	1)	2.16	2.16	2.16	2.16	2.16	2.16	2.16	
100/0/0	2)	5.89	3.77	3.91	4.25	5.07	5.71	3.73	
	3)	172.69	74.54	81.02	96.76	134.72	164.35	72.69	
FA/NC/60	1)	4.83	4.83	4.83	4.83	4.83	4.83	4.83	
100/40/0	2)	8.78	5.88	6.09	6.57	7.67	8.54	5.83	
	3)	81.78	21.74	26.09	36.02	58.80	76.81	20.70	
FAP/C/65	1)	8.26	8.26	8.26	8.26	8.26	8.26	8.26	
100/40/0	2)	12.06	9.05	9.20	9.61	10.84	11.80	9.01	
	3)	46.00	9.56	11.38	16.34	31.23	42.86	9.08	
FAP/C/60	1)	11.89	11.89	11.89	11.89	11.89	11.89	11.89	
100/70/0	2)	15.62	11.89	11.89	12.14	13.88	15.25	11.89	
	3)	31.37	0.00	0.00	2.10	16.74	28.26	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.14

Plan Type	-----							Assumptions -----
	100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	1.16	1.16	1.16	1.16	1.16	1.16	Economic
100/0/0	2)	6.63	3.68	3.88	4.34	5.49	6.38	CPI 9
	3)	471.55	217.24	234.48	274.14	373.28	450.00	Interest 3
								Earnings 2
FB/NC/60	1)	5.70	5.70	5.70	5.70	5.70	5.70	
100/70/0	2)	12.22	5.92	5.92	6.34	9.28	11.59	Retroactivity
	3)	114.39	3.86	3.86	11.23	62.81	103.33	None
								Partial *
								Full
CA/C/65	1)	4.25	4.25	4.25	4.25	4.25	4.25	
0/0/0	2)	7.81	5.94	6.08	6.37	7.09	7.65	
	3)	83.76	39.76	43.06	49.88	66.82	80.00	
CA/C/65	1)	4.46	4.46	4.46	4.46	4.46	4.46	
100/0/0	2)	14.07	9.11	9.61	10.61	12.34	13.69	
	3)	215.47	104.26	115.47	137.89	176.68	206.95	
CA/C/60	1)	7.01	7.01	7.01	7.01	7.01	7.01	
100/40/0	2)	17.21	10.21	10.83	12.14	14.68	16.67	1)Pre-Cost†
	3)	145.51	45.65	54.49	73.18	109.42	137.80	2)Post-Cost†
								3)Percent Increase
CA/NC/65	1)	1.84	1.84	1.84	1.84	1.84	1.84	
100/0/0	2)	8.89	4.93	5.19	5.80	7.35	8.56	Pre-Cost and
	3)	383.15	167.93	182.07	215.22	299.46	365.22	Post-Cost
								expressed as
								% of earnings
CA/NC/60	1)	4.11	4.11	4.11	4.11	4.11	4.11	
100/40/0	2)	11.46	6.06	6.44	7.31	9.39	11.02	
	3)	178.83	47.45	56.69	77.86	128.47	168.13	Increased cost
								includes UFL
FA/C/65	1)	5.25	5.25	5.25	5.25	5.25	5.25	
100/0/0	2)	16.55	10.72	11.31	12.48	14.51	16.12	
	3)	215.24	104.19	115.43	137.71	176.38	207.05	
FA/C/60	1)	8.25	8.25	8.25	8.25	8.25	8.25	
100/40/0	2)	20.25	12.01	12.75	14.28	17.26	19.61	
	3)	145.45	45.58	54.55	73.09	109.21	137.70	
FA/NC/65	1)	2.16	2.16	2.16	2.16	2.16	2.16	
100/0/0	2)	9.92	5.49	5.77	6.44	8.18	9.54	
	3)	359.26	154.17	167.13	198.15	278.70	341.67	
FA/NC/60	1)	4.83	4.83	4.83	4.83	4.83	4.83	
100/40/0	2)	12.87	6.91	7.31	8.26	10.56	12.37	
	3)	166.46	43.06	51.35	71.01	118.63	156.11	
FAP/C/65	1)	8.26	8.26	8.26	8.26	8.26	8.26	
100/40/0	2)	18.61	10.81	11.27	12.42	15.52	17.95	
	3)	125.30	30.87	36.44	50.36	87.89	117.31	
FAP/C/60	1)	11.89	11.89	11.89	11.89	11.89	11.89	
100/70/0	2)	20.93	12.15	12.15	12.74	16.83	20.05	
	3)	76.03	2.19	2.19	7.15	41.55	68.63	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.15

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
FB/NC/65	1)	1.16	1.16	1.16	1.16	1.16	1.16	1.16	Economic
100/0/0	2)	8.76	4.77	5.01	5.61	6.68	8.40	4.55	CPI
	3)	655.17	311.21	331.90	383.62	475.86	624.14	292.24	Interest
FB/NC/60	1)	5.70	5.70	5.70	5.70	5.70	5.70	5.70	Earnings
100/70/0	2)	15.37	6.52	6.52	6.94	9.86	14.40	6.52	Retroactivity
	3)	169.65	14.39	14.39	21.75	72.98	152.63	14.39	None
CA/C/65	1)	4.25	4.25	4.25	4.25	4.25	4.25	4.25	Partial
0/0/0	2)	10.54	7.14	7.33	7.80	8.55	10.22	6.92	Full
	3)	148.00	68.00	72.47	83.53	101.18	140.47	62.82	*
CA/C/65	1)	4.46	4.46	4.46	4.46	4.46	4.46	4.46	
100/0/0	2)	17.30	10.54	11.09	12.30	14.06	16.73	10.20	
	3)	287.89	136.32	148.65	175.78	215.25	275.11	128.70	
CA/C/60	1)	7.01	7.01	7.01	7.01	7.01	7.01	7.01	
100/40/0	2)	19.96	11.05	11.72	13.25	15.59	19.21	10.55	1)Pre-Cost
	3)	184.74	57.63	67.19	89.02	122.40	174.04	50.50	2)Post-Cost
CA/NC/65	1)	1.84	1.84	1.84	1.84	1.84	1.84	1.84	3)Percent Increase
100/0/0	2)	10.36	5.60	5.89	6.60	8.15	9.95	5.44	Pre-Cost and
	3)	463.04	204.35	220.11	258.70	342.93	440.76	195.65	Post-Cost
CA/NC/60	1)	4.11	4.11	4.11	4.11	4.11	4.11	4.11	expressed as
100/40/0	2)	13.19	6.63	7.05	8.07	9.99	12.63	6.32	% of earnings
	3)	220.92	61.31	71.53	96.35	143.07	207.30	53.77	Increased cost
FA/C/65	1)	5.25	5.25	5.25	5.25	5.25	5.25	5.25	includes UFL
100/0/0	2)	20.35	12.40	13.06	14.47	16.54	19.70	11.99	
	3)	287.62	136.19	148.76	175.62	215.05	275.24	128.38	
FA/C/60	1)	8.25	8.25	8.25	8.25	8.25	8.25	8.25	
100/40/0	2)	23.48	12.99	13.79	15.59	18.33	22.60	12.40	
	3)	184.61	57.45	67.15	88.97	122.18	173.94	50.30	
FA/NC/65	1)	2.16	2.16	2.16	2.16	2.16	2.16	2.16	
100/0/0	2)	10.97	5.91	6.21	6.96	8.73	10.53	5.78	
	3)	407.87	173.61	187.50	222.22	304.17	387.50	167.59	
FA/NC/60	1)	4.83	4.83	4.83	4.83	4.83	4.83	4.83	
100/40/0	2)	14.10	7.32	7.74	8.79	11.01	13.51	7.07	
	3)	191.93	51.55	60.25	81.99	127.95	179.71	46.38	
FAP/C/65	1)	8.26	8.26	8.26	8.26	8.26	8.26	8.26	
100/40/0	2)	23.07	12.22	12.81	14.36	17.33	22.10	11.67	
	3)	179.30	47.94	55.08	73.85	109.81	167.55	41.28	
FAP/C/60	1)	11.89	11.89	11.89	11.89	11.89	11.89	11.89	
100/70/0	2)	24.09	12.88	12.88	13.50	17.76	22.90	12.88	
	3)	102.61	8.33	8.33	13.54	49.37	92.60	8.33	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.16

Plan		STAGE I SUMMARY PLAN RESULTS							Assumptions
Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
FB/NC/65	1)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	Economic
100/0/0	2)	3.04	1.73	1.87	2.26	2.71	3.00	1.93	CPI 12
	3)	241.57	94.38	110.11	153.93	204.49	237.08	116.85	Interest 3
									Earnings 2
FB/NC/60	1)	4.94	4.94	4.94	4.94	4.94	4.94	4.94	Retroactivity None *
100/70/0	2)	7.75	4.94	4.94	5.78	6.91	7.66	4.94	
	3)	56.88	0.00	0.00	17.00	39.88	55.06	0.00	
CA/C/65	1)	4.03	4.03	4.03	4.03	4.03	4.03	4.03	Partial
0/0/0	2)	4.94	4.39	4.45	4.62	4.80	4.92	4.48	Full
	3)	22.58	8.93	10.42	14.64	19.11	22.08	11.17	
CA/C/65	1)	4.13	4.13	4.13	4.13	4.13	4.13	4.13	1)Pre-Cost 2)Post-Cost 3)Percent Increase
100/0/0	2)	7.91	5.85	6.26	6.88	7.47	7.86	6.43	
	3)	91.53	41.65	51.57	66.59	80.87	90.31	55.69	
CA/C/60	1)	6.14	6.14	6.14	6.14	6.14	6.14	6.14	Pre-Cost and Post-Cost expressed as % of earnings
100/40/0	2)	10.92	7.60	8.12	9.11	10.15	10.84	8.34	
	3)	77.85	23.78	32.25	48.37	65.31	76.55	35.83	
CA/NC/65	1)	1.40	1.40	1.40	1.40	1.40	1.40	1.40	Increased cost includes UFL
100/0/0	2)	4.77	2.73	2.95	3.56	4.25	4.71	3.04	
	3)	240.71	95.00	110.71	154.29	203.57	236.43	117.14	
CA/NC/60	1)	3.39	3.39	3.39	3.39	3.39	3.39	3.39	
100/40/0	2)	7.11	4.30	4.62	5.47	6.41	7.04	4.76	
	3)	109.73	26.84	36.28	61.36	89.09	107.67	40.41	
FA/C/65	1)	4.86	4.86	4.86	4.86	4.86	4.86	4.86	
100/0/0	2)	9.31	6.88	7.36	8.09	8.79	9.25	7.57	
	3)	91.56	41.56	51.44	66.46	80.86	90.33	55.76	
FA/C/60	1)	7.22	7.22	7.22	7.22	7.22	7.22	7.22	
100/40/0	2)	12.85	8.95	9.55	10.72	11.94	12.75	9.81	
	3)	77.98	23.96	32.27	48.48	65.37	76.59	35.87	
FA/NC/65	1)	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
100/0/0	2)	5.61	3.21	3.47	4.19	5.00	5.54	3.58	
	3)	240.00	94.55	110.30	153.94	203.03	235.76	116.97	
FA/NC/60	1)	3.99	3.99	3.99	3.99	3.99	3.99	3.99	
100/40/0	2)	8.37	5.06	5.44	6.43	7.54	8.28	5.60	
	3)	109.77	26.82	36.34	61.15	88.97	107.52	40.35	
FAP/C/65	1)	7.74	7.74	7.74	7.74	7.74	7.74	7.74	
100/40/0	2)	11.60	8.44	8.69	9.63	10.76	11.51	8.79	
	3)	49.87	9.04	12.27	24.42	39.02	48.71	13.57	
FAP/C/60	1)	10.76	10.76	10.76	10.76	10.76	10.76	10.76	
100/70/0	2)	14.97	10.76	10.76	12.02	13.71	14.83	10.76	
	3)	39.13	0.00	0.00	11.71	27.42	37.83	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.17

Plan		100%	60%	75%	100%	B.Y.	F.R.	F.R.	
Type				-1.0%	-2.5%	-3.5%	-3.5%	-7.0%	
									Assumptions
FB/NC/65	1)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
100/0/0	2)	6.74	3.41	3.77	4.77	5.90	6.64	3.93	Economic
	3)	657.30	283.15	323.60	435.96	562.92	646.07	341.57	CPI 12
									Interest 3
									Earnings 2
FB/NC/60	1)	4.94	4.94	4.94	4.94	4.94	4.94	4.94	
100/70/0	2)	12.44	5.14	5.14	7.33	10.25	12.20	5.14	
	3)	151.82	4.05	4.05	48.38	107.49	146.96	4.05	Retroactivity
									None
CA/C/65	1)	4.03	4.03	4.03	4.03	4.03	4.03	4.03	Partial *
0/0/0	2)	8.13	5.86	6.11	6.80	7.56	8.06	6.22	Full
	3)	101.74	45.41	51.61	68.73	87.59	100.00	54.34	
CA/C/65	1)	4.13	4.13	4.13	4.13	4.13	4.13	4.13	
100/0/0	2)	14.49	8.85	9.80	11.49	13.20	14.35	10.20	
	3)	250.85	114.29	137.29	178.21	219.61	247.46	146.97	
CA/C/60	1)	6.14	6.14	6.14	6.14	6.14	6.14	6.14	
100/40/0	2)	17.35	9.49	10.65	13.00	15.49	17.15	11.14	
	3)	182.57	54.56	73.45	111.73	152.28	179.32	81.43	1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	1.40	1.40	1.40	1.40	1.40	1.40	1.40	
100/0/0	2)	8.97	4.46	4.93	6.28	7.81	8.84	5.12	
	3)	540.71	218.57	252.14	348.57	457.86	531.43	265.71	Pre-Cost and
									Post-Cost
									expressed as
									% of earnings
CA/NC/60	1)	3.39	3.39	3.39	3.39	3.39	3.39	3.39	
100/40/0	2)	11.58	5.40	6.09	7.95	10.03	11.42	6.39	
	3)	241.59	59.29	79.65	134.51	195.87	236.87	88.50	Increased cost
									includes UFL
FA/C/65	1)	4.86	4.86	4.86	4.86	4.86	4.86	4.86	
100/0/0	2)	17.05	10.41	11.52	13.51	15.54	16.88	12.00	
	3)	250.82	114.20	137.04	177.98	219.75	247.33	146.91	
FA/C/60	1)	7.22	7.22	7.22	7.22	7.22	7.22	7.22	
100/40/0	2)	20.41	11.17	12.53	15.30	18.22	20.17	13.11	
	3)	182.69	54.71	73.55	111.91	152.35	179.36	81.58	
FA/NC/65	1)	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
100/0/0	2)	9.97	4.93	5.43	6.95	8.67	9.82	5.65	
	3)	504.24	198.79	229.09	321.21	425.45	495.15	242.42	
FA/NC/60	1)	3.99	3.99	3.99	3.99	3.99	3.99	3.99	
100/40/0	2)	12.94	6.12	6.87	8.91	11.21	12.75	7.18	
	3)	224.31	53.38	72.18	123.31	180.95	219.55	79.95	
FAP/C/65	1)	7.74	7.74	7.74	7.74	7.74	7.74	7.74	
100/40/0	2)	19.29	10.47	11.35	13.99	17.02	19.04	11.72	
	3)	149.22	35.27	46.64	80.75	119.90	145.99	51.42	
FAP/C/60	1)	10.76	10.76	10.76	10.76	10.76	10.76	10.76	
100/70/0	2)	21.04	11.01	11.01	14.02	18.03	20.71	11.01	
	3)	95.54	2.32	2.32	30.30	67.57	92.47	2.32	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.18

Plan Type		100%	60%	75%		100%		B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
				-1.0%	-2.5%	-2.5%	-5.0%				
FB/NC/65	1)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	Economic
100/0/0	2)	8.78	4.41	4.81	6.01	7.06	8.59	4.79			CPI 12
	3)	886.52	395.51	440.45	575.28	693.26	865.17	438.20			Interest 3
											Earnings 2
FB/NC/60	1)	4.94	4.94	4.94	4.94	4.94	4.94	4.94			
100/70/0	2)	15.44	5.67	5.67	7.80	10.65	14.85	5.67			Retroactivity
	3)	212.55	14.78	14.78	57.89	115.59	200.61	14.78			None
											Partial
CA/C/65	1)	4.03	4.03	4.03	4.03	4.03	4.03	4.03			Full *
0/0/0	2)	11.47	7.24	7.55	8.65	9.39	11.24	7.41			
	3)	184.62	79.65	87.34	114.64	133.00	178.91	83.87			
CA/C/65	1)	4.13	4.13	4.13	4.13	4.13	4.13	4.13			
100/0/0	2)	18.27	10.42	11.44	13.59	15.28	17.96	11.56			
	3)	342.37	152.30	177.00	229.06	269.98	334.87	179.90			
CA/C/60	1)	6.14	6.14	6.14	6.14	6.14	6.14	6.14			
100/40/0	2)	20.09	10.29	11.47	14.15	16.38	19.70	11.51			1)Pre-Cost
	3)	227.20	67.59	86.81	130.46	166.78	220.85	87.46			2)Post-Cost
											3)Percent Increase
CA/NC/65	1)	1.40	1.40	1.40	1.40	1.40	1.40	1.40			
100/0/0	2)	10.42	5.07	5.58	7.10	8.61	10.22	5.66			Pre-Cost and
	3)	644.29	262.14	298.57	407.14	515.00	630.00	304.29			Post-Cost
											expressed as
CA/NC/60	1)	3.39	3.39	3.39	3.39	3.39	3.39	3.39			% of earnings
100/40/0	2)	13.23	5.93	6.64	8.68	10.58	12.96	6.66			
	3)	290.27	74.93	95.87	156.05	212.09	282.30	96.46			Increased cost
											includes UFL
FA/C/65	1)	4.86	4.86	4.86	4.86	4.86	4.86	4.86			
100/0/0	2)	21.50	12.25	13.45	15.98	17.99	21.12	13.60			
	3)	342.39	152.06	176.75	228.81	270.16	334.57	179.84			
FA/C/60	1)	7.22	7.22	7.22	7.22	7.22	7.22	7.22			
100/40/0	2)	23.63	12.11	13.50	16.65	19.26	23.17	13.55			
	3)	227.29	67.73	86.98	130.61	166.76	220.91	87.67			
FA/NC/65	1)	1.65	1.65	1.65	1.65	1.65	1.65	1.65			
100/0/0	2)	11.04	5.31	5.84	7.51	9.25	10.84	5.99			
	3)	569.09	221.82	253.94	355.15	460.61	556.97	263.03			
FA/NC/60	1)	3.99	3.99	3.99	3.99	3.99	3.99	3.99			
100/40/0	2)	14.13	6.49	7.25	9.43	11.63	13.86	7.38			
	3)	254.14	62.66	81.70	136.34	191.48	247.37	84.96			
FAP/C/65	1)	7.74	7.74	7.74	7.74	7.74	7.74	7.74			
100/40/0	2)	24.51	11.99	13.02	16.38	19.18	23.95	12.79			
	3)	216.67	54.91	68.22	111.63	147.80	209.43	65.25			
FAP/C/60	1)	10.76	10.76	10.76	10.76	10.76	10.76	10.76			
100/70/0	2)	24.22	11.68	11.68	14.78	18.88	23.58	11.68			
	3)	125.09	8.55	8.55	37.36	75.46	119.14	8.55			

STAGE I
SENSITIVITY RESULTS

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.1S(1)

Plan Type								Assumptions
	100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
								Economic
								CPI 0
								Interest 3
								Earnings 2
FB/NC/60 1)	9.15	9.15	9.15	9.15	9.15	9.15	9.15	Retroactivity None *
100/70/0 2)	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
								Partial
								1)Pre-Cost
								2)Post-Cost
								3)Percent Increase
CA/NC/65 1)	5.56	5.56	5.56	5.56	5.56	5.56	5.56	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0 2)	5.56	5.56	5.56	5.56	5.56	5.56	5.56	
3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
								Increased cost includes UFL
FA/C/60 1)	14.88	14.88	14.88	14.88	14.88	14.88	14.88	
100/40/0 2)	14.88	14.88	14.88	14.88	14.88	14.88	14.88	
3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.2S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 0
									Interest 3
									Earnings 2
FB/NC/60	1)	9.15	9.15	9.15	9.15	9.15	9.15	9.15	Retroactivity
100/70/0	2)	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
									None
									Partial *
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	5.56	5.56	5.56	5.56	5.56	5.56	5.56	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	5.56	5.56	5.56	5.56	5.56	5.56	5.56	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
									Increased cost
									Includes UFL
FA/C/60	1)	14.88	14.88	14.88	14.88	14.88	14.88	14.88	
100/40/0	2)	14.88	14.88	14.88	14.88	14.88	14.88	14.88	
	3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.4S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions

									Economic
									CPI 3
									Interest 3
									Earnings 2
FB/NC/60	1)	7.70	7.70	7.70	7.70	7.70	7.70	7.70	
100/70/0	2)	8.79	7.70	7.70	7.70	7.70	8.28	7.70	Retroactivity
	3)	14.16	0.00	0.00	0.00	0.00	7.53	0.00	None *
									Partial
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.54	3.54	3.54	3.54	3.54	3.54	3.54	
100/0/0	2)	5.36	4.50	4.17	3.79	4.37	5.05	3.54	Pre-Cost and
	3)	51.41	27.12	17.80	7.06	23.45	42.66	0.00	Post-Cost expressed as % of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	11.38	11.38	11.38	11.38	11.38	11.38	11.38	
100/40/0	2)	14.32	12.44	11.49	11.38	12.07	13.69	11.38	
	3)	25.83	9.31	0.97	0.00	6.06	20.30	0.00	

STAGE 1 SUMMARY PLAN RESULTS

TABLE 1.A.5S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 3
									Interest 3
									Earnings 2
FB/NC/60	1)	7.70	7.70	7.70	7.70	7.70	7.70	7.70	Retroactivity None Partial *
100/70/0	2)	10.70	7.84	7.84	7.84	7.84	9.36	7.84	
	3)	38.96	1.82	1.82	1.82	1.82	21.56	1.82	
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.54	3.54	3.54	3.54	3.54	3.54	3.54	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	7.55	5.66	4.97	4.12	5.39	6.85	3.54	
	3)	113.28	59.89	40.40	16.38	52.26	93.50	0.00	
									Increased cost includes UFL
FA/C/60	1)	11.38	11.38	11.38	11.38	11.38	11.38	11.38	
100/40/0	2)	17.90	13.62	11.67	11.45	12.86	16.41	11.45	
	3)	57.29	19.68	2.55	0.62	13.01	44.20	0.62	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.7S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5
									Interest 3
									Earnings 2
FB/NC/60	1)	7.79	7.79	7.79	7.79	7.79	7.79	7.79	
100/70/0	2)	9.72	7.79	7.79	7.79	7.98	9.27	7.79	Retroactivity
	3)	24.78	0.00	0.00	0.00	2.44	19.00	0.00	None *
									Partial
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.09	3.09	3.09	3.09	3.09	3.09	3.09	
100/0/0	2)	5.99	4.52	4.37	4.22	4.93	5.72	3.57	Pre-Cost and
	3)	93.85	46.28	41.42	36.57	59.55	85.11	15.53	Post-Cost
									expressed as
									% of earnings
									Increased cost
									includes UFL
FA/C/60	1)	10.79	10.79	10.79	10.79	10.79	10.79	10.79	
100/40/0	2)	15.71	12.42	12.01	11.60	13.48	15.13	10.79	
	3)	45.60	15.11	11.31	7.51	24.93	40.22	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.8S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5
									Interest 3
FB/NC/60	1)	7.79	7.79	7.79	7.79	7.79	7.79	7.79	Earnings 2
100/70/0	2)	12.92	8.02	8.02	8.02	8.51	11.78	8.02	Retroactivity
	3)	65.85	2.95	2.95	2.95	9.24	51.22	2.95	None
									Partial *
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.09	3.09	3.09	3.09	3.09	3.09	3.09	
100/0/0	2)	9.36	6.19	5.89	5.59	7.04	8.77	4.19	Pre-Cost and
	3)	202.91	100.32	90.61	80.91	127.83	183.82	35.60	Post-Cost
									expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	10.79	10.79	10.79	10.79	10.79	10.79	10.79	
100/40/0	2)	21.42	14.17	13.35	12.52	16.36	20.11	10.89	
	3)	98.52	31.33	23.73	16.03	51.62	86.38	0.93	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.10S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 7
									Interest 3
									Earnings 2
FB/NC/60	1)	7.02	7.02	7.02	7.02	7.02	7.02	7.02	
100/70/0	2)	9.48	7.02	7.02	7.02	8.00	9.15	7.02	Retroactivity
	3)	35.04	0.00	0.00	0.00	13.96	30.34	0.00	None *
									Partial
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.45	2.45	2.45	2.45	2.45	2.45	2.45	
100/0/0	2)	5.86	3.99	4.03	4.13	4.94	5.65	3.52	Pre-Cost and
	3)	139.18	62.86	64.49	68.57	101.63	130.61	43.67	Post-Cost
									expressed as
									% of earnings
									Increased cost
									includes UFL
FA/C/60	1)	9.40	9.40	9.40	9.40	9.40	9.40	9.40	
100/40/0	2)	15.32	11.25	11.34	11.62	13.43	14.90	9.95	
	3)	62.98	19.68	20.64	23.62	42.87	58.51	5.85	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.11S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 7
									Interest 3
FB/NC/60	1)	7.02	7.02	7.02	7.02	7.02	7.02	7.02	Earnings 2
100/70/0	2)	13.53	7.28	7.28	7.28	9.78	12.69	7.28	Retroactivity
	3)	92.74	3.70	3.70	3.70	39.32	80.77	3.70	
									None
									Partial *
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.45	2.45	2.45	2.45	2.45	2.45	2.45	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	9.86	5.84	5.91	6.12	7.86	9.41	4.89	
	3)	302.45	138.37	141.22	149.80	220.82	284.08	99.59	
									Increased cost
									Includes UFL
FA/C/60	1)	9.40	9.40	9.40	9.40	9.40	9.40	9.40	
100/40/0	2)	22.33	13.30	13.48	14.06	18.05	21.38	10.63	
	3)	137.55	41.49	43.40	49.57	92.02	127.45	13.09	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.13S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 9
									Interest 3
									Earnings 2
FB/NC/60	1)	7.13	7.13	7.13	7.13	7.13	7.13	7.13	
100/70/0	2)	10.48	7.13	7.13	7.35	8.92	10.14	7.13	Retroactivity
	3)	46.98	0.00	0.00	3.09	25.11	42.22	0.00	None *
									Partial
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.23	2.23	2.23	2.23	2.23	2.23	2.23	
100/0/0	2)	6.55	4.05	4.21	4.60	5.57	6.34	4.00	Pre-Cost and
	3)	193.72	81.61	88.79	106.28	149.78	184.30	79.37	Post-Cost
									expressed as
									% of earnings
									Increased cost
									includes UFL
FA/C/60	1)	9.06	9.06	9.06	9.06	9.06	9.06	9.06	
100/40/0	2)	16.81	11.22	11.65	12.60	14.71	16.36	11.11	
	3)	85.54	23.84	28.59	39.07	62.36	80.57	22.63	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.14S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%
FB/NC/60	1)	7.13	7.13	7.13	7.13	7.13	7.13	7.13
100/70/0	2)	15.72	7.43	7.43	7.98	11.85	14.89	7.43
	3)	120.48	4.21	4.21	11.92	66.20	108.84	4.21
CA/NC/65	1)	2.23	2.23	2.23	2.23	2.23	2.23	2.23
100/0/0	2)	11.45	6.19	6.51	7.31	9.38	11.01	6.09
	3)	413.45	177.58	191.93	227.80	320.63	393.72	173.09
FA/C/60	1)	9.06	9.06	9.06	9.06	9.06	9.06	9.06
100/40/0	2)	25.55	13.54	14.42	16.38	20.97	24.57	13.32
	3)	182.01	49.45	59.16	80.79	131.46	171.19	47.02

Assumptions

Economic	
CPI	9
Interest	3
Earnings	2
Retroactivity	
None	
Partial	*

- 1)Pre-Cost
- 2)Post-Cost
- 3)Percent Increase

Pre-Cost and
Post-Cost
expressed as
% of earnings

Increased cost
Includes UFL

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.16S(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions	
									Economic	
									CPI	12
									Interest	3
									Earnings	2
FB/NC/60	1)	6.91	6.91	6.91	6.91	6.91	6.91	6.91		
100/70/0	2)	11.45	6.91	6.91	8.27	10.09	11.30	6.91	Retroactivity	
	3)	65.70	0.00	0.00	19.68	46.02	63.53	0.00	None	*
									Partial	
			</							

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.175(1)

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 12
									Interest 3
									Earnings 2
FB/NC/60	1)	6.91	6.91	6.91	6.91	6.91	6.91	6.91	Retroactivity
100/70/0	2)	18.16	7.23	7.23	10.51	14.88	17.80	7.23	None
	3)	162.81	4.63	4.63	52.10	115.34	157.60	4.63	Partial *
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	Pre-Cost and
100/0/0	2)	13.12	6.21	6.88	8.95	11.34	12.93	7.18	Post-Cost
	3)	605.38	233.87	269.89	381.18	509.68	595.16	286.02	expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	8.31	8.31	8.31	8.31	8.31	8.31	8.31	
100/40/0	2)	28.95	13.44	15.20	19.85	25.05	28.51	15.95	
	3)	248.38	61.73	82.91	138.87	201.44	243.08	91.94	

STAGE 1 SUMMARY PLAN RESULTS

TABLE I.A.7S(2)AN

Plan Type		100%	60%	75%	100%	B.Y.	F.R.	F.R.	Assumptions
				-1.0%	-2.5%	-3.5%	-3.5%	-7.0%	
									Economic
									CPI 5.0
									Real Int. 3.5
									Real Sal. 2.0
FB/NC/60	1)	6.25	6.25	6.25	6.25	6.25	6.25	6.25	
100/70/0	2)	7.67	6.25	6.25	6.25	6.39	7.34	6.25	Retroactivity
	3)	22.72	0.00	0.00	0.00	2.24	17.44	0.00	None *
									Partial
									Full
									</

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.7S(2)AP

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
									Assumptions
									Economic
									CPI 5.0
									Interest 3.5
									Earnings 2.0
FB/NC/60	1)	6.25	6.25	6.25	6.25	6.25	6.25	6.25	
100/70/0	2)	10.19	6.42	6.42	6.42	6.80	9.31	6.42	Retroactivity
	3)	63.04	2.72	2.72	2.72	8.80	48.96	2.72	None
									Partial *
									Full
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	
100/0/0	2)	7.35	4.92	4.69	4.47	5.57	6.89	3.37	Pre-Cost and
	3)	192.83	96.02	86.85	78.09	121.91	174.50	34.26	Post-Cost
									expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	9.07	9.07	9.07	9.07	9.07	9.07	9.07	
100/40/0	2)	17.16	11.80	11.14	10.47	13.53	16.22	9.15	
	3)	89.20	30.10	22.82	15.44	49.17	78.83	0.88	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.7S(2)BN

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
-----									-----
									Economic
									CPI 5.0
									Real Int. 2.5
									Real Sal. 2.0
FB/NC/60	1)	7.98	7.98	7.98	7.98	7.98	7.98	7.98	Retroactivity None * Partial Full
100/70/0	2)	9.93	7.98	7.98	7.98	8.17	9.47	7.98	
	3)	24.44	0.00	0.00	0.00	2.38	18.67	0.00	
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.21	3.21	3.21	3.21	3.21	3.21	3.21	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	6.20	4.68	4.53	4.38	5.10	5.91	3.71	
	3)	93.15	45.79	41.12	36.45	58.88	84.11	15.58	
									Increased cost includes UFL
FA/C/60	1)	11.08	11.08	11.08	11.08	11.08	11.08	11.08	
100/40/0	2)	16.04	12.71	12.30	11.89	13.77	15.45	11.08	
	3)	44.77	14.71	11.01	7.31	24.28	39.44	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.7S(2)BP

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Interest 2.5
									Earnings 2.0
FB/NC/60	1)	7.98	7.98	7.98	7.98	7.98	7.98	7.98	
100/70/0	2)	13.04	8.20	8.20	8.20	8.68	11.91	8.20	Retroactivity
	3)	63.41	2.76	2.76	2.76	8.77	49.25	2.76	None
									Partial *
									Full
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.21	3.21	3.21	3.21	3.21	3.21	3.21	
100/0/0	2)	9.53	6.33	6.03	5.74	7.19	8.92	4.32	Pre-Cost and
	3)	196.88	97.20	87.85	78.82	123.99	177.88	34.58	Post-Cost
									expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	11.08	11.08	11.08	11.08	11.08	11.08	11.08	
100/40/0	2)	21.61	14.41	13.60	12.78	16.58	20.30	11.17	
	3)	95.04	30.05	22.74	15.34	49.64	83.21	0.81	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.7S(2)CN

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Real Int. 3.5
									Real Sal. 1.5
FB/NC/60	1)	5.98	5.98	5.98	5.98	5.98	5.98	5.98	Retroactivity None * Partial Full
100/70/0	2)	7.34	5.98	5.98	5.98	6.12	7.02	5.98	
	3)	22.74	0.00	0.00	0.00	2.34	17.39	0.00	
CA/NC/65	1)	2.36	2.36	2.36	2.36	2.36	2.36	2.36	1)Pre-Cost
100/0/0	2)	4.40	3.38	3.28	3.18	3.67	4.21	2.71	2)Post-Cost
	3)	86.20	43.04	38.81	34.57	55.31	78.16	14.68	3)Percent Increase
									Pre-Cost and Post-Cost expressed as % of earnings
									Increased cost includes UFL
FA/C/60	1)	8.73	8.73	8.73	8.73	8.73	8.73	8.73	
100/40/0	2)	12.10	9.92	9.63	9.33	10.68	11.73	8.73	
	3)	38.60	13.63	10.31	6.87	22.34	34.36	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.7S(2)CP

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Interest 3.5
FB/NC/60	1)	5.98	5.98	5.98	5.98	5.98	5.98	5.98	Earnings 1.5
100/70/0	2)	9.87	6.15	6.15	6.15	6.53	9.00	6.15	
	3)	65.05	2.84	2.84	2.84	9.20	50.50	2.84	Retroactivity
									None
									Partial *
									Full
									1)Pre-Cost
									2)Post-Cost
CA/NC/65	1)	2.36	2.36	2.36	2.36	2.36	2.36	2.36	3)Percent Increase
100/0/0	2)	7.07	4.71	4.50	4.28	5.35	6.62	3.20	
	3)	199.20	99.32	90.44	81.13	126.41	180.15	35.42	Pre-Cost and
									Post-Cost
									expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	8.73	8.73	8.73	8.73	8.73	8.73	8.73	
100/40/0	2)	16.66	11.42	10.77	10.12	13.12	15.74	8.81	
	3)	90.84	30.81	23.37	15.92	50.29	80.30	0.92	

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.7S(2)DN

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Real Int. 2.5
									Real Sal. 1.5
FB/NC/60	1)	7.62	7.62	7.62	7.62	7.62	7.62	7.62	
100/70/0	2)	9.49	7.62	7.62	7.62	7.81	9.05	7.62	Retroactivity
	3)	24.54	0.00	0.00	0.00	2.49	18.77	0.00	None *
									Partial
									Full
						</			

STAGE I SUMMARY PLAN RESULTS

TABLE I.A.7S(2)DP

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Interest 2.5
									Earnings 1.5
FB/NC/60	1)	7.62	7.62	7.62	7.62	7.62	7.62	7.62	
100/70/0	2)	12.61	7.84	7.84	7.84	8.32	11.49	7.84	Retroactivity
	3)	65.49	2.89	2.89	2.89	9.19	50.79	2.89	None
									Partial *
									Full
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	3.02	3.02	3.02	3.02	3.02	3.02	3.02	
100/0/0	2)	9.14	6.04	5.74	5.46	6.87	8.55	4.09	Pre-Cost and
	3)	202.90	100.17	90.22	80.94	127.67	183.35	35.54	Post-Cost
									expressed as
									% of earnings
									Increased cost
									Includes UFL
FA/C/60	1)	10.60	10.60	10.60	10.60	10.60	10.60	10.60	
100/40/0	2)	20.92	13.86	13.07	12.28	16.00	19.64	10.69	
	3)	97.36	30.75	23.30	15.85	50.94	85.28	0.85	

STAGE 1 SUMMARY PLAN RESULTS

TABLE I.A.7S(2)EN

Plan									Assumptions
Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	
									Economic
									CPI 5.0
									Real Int. 3.0
									Real Sal. 1.5
FB/NC/60	1)	6.73	6.73	6.73	6.73	6.73	6.73	6.73	Retroactivity None * Partial Full
100/70/0	2)	8.32	6.73	6.73	6.73	6.89	7.95	6.73	
	3)	23.63	0.00	0.00	0.00	2.38	18.13	0.00	
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.66	2.66	2.66	2.66	2.66	2.66	2.66	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	5.06	3.86	3.74	3.61	4.20	4.84	3.07	
	3)	90.23	45.11	40.60	35.71	57.89	81.95	15.41	
									Increased cost includes UFL
FA/C/60	1)	9.59	9.59	9.59	9.59	9.59	9.59	9.59	
100/40/0	2)	13.59	10.95	10.61	10.27	11.83	13.13	9.59	
	3)	41.71	14.18	10.64	7.09	23.36	36.91	0.00	

STAGE I SUMMARY PLAN RESULTS

TABLE 1.A.7S(2)EP

Plan Type		100%	60%	75% -1.0%	100% -2.5%	B.Y. -3.5%	F.R. -3.5%	F.R. -7.0%	Assumptions
									Economic
									CPI 5.0
									Real Int. 3.0
									Real Sal. 1.5
FB/NC/60	1)	6.73	6.73	6.73	6.73	6.73	6.73	6.73	Retroactivity None Partial * Full
100/70/0	2)	11.12	6.93	6.93	6.93	7.35	10.14	6.93	
	3)	65.23	2.97	2.97	2.97	9.21	50.67	2.97	
									1)Pre-Cost
									2)Post-Cost
									3)Percent Increase
CA/NC/65	1)	2.66	2.66	2.66	2.66	2.66	2.66	2.66	Pre-Cost and Post-Cost expressed as % of earnings
100/0/0	2)	8.02	5.33	5.08	4.82	6.06	7.52	3.61	
	3)	201.50	100.38	90.98	81.20	127.82	182.71	35.71	
									Increased cost Includes UFL
FA/C/60	1)	9.59	9.59	9.59	9.59	9.59	9.59	9.59	
100/40/0	2)	18.63	12.54	11.83	11.11	14.45	17.54	9.67	
	3)	94.26	30.76	23.36	15.85	50.68	82.90	0.83	

APPENDIX B

STAGE II SUMMARY RESULTS

MAXIMUM AND POTENTIAL FUNDING AND EXPENSING COST OF 100% CPI
=====

(Percent of Payroll)

		FUNDING						EXPENSING			
		PROSPECTIVE		RETROACTIVE				PROSPECTIVE		RETROACTIVE	
		Max.	Pot'l	Max.	Pot'l			Max.	Pot'l	Max.	Pot'l
		=====	=====	=====	=====			=====	=====	=====	=====
	Plan					Plan					
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
FB (SE)	1	1.16	0.42	4.28	1.57	1	1.02	0.38	7.20	2.68	
	3	1.75	1.75	6.83	6.83	3	1.56	1.56	11.62	11.62	
	4	1.08	0.90	4.14	3.45	4	0.95	0.79	7.10	5.93	
	6a	0.50	0.50	1.13	1.13	6a	0.42	0.42	1.61	1.61	
FB (ME)	8	1.49	1.18	1.90	1.50						
	8c	0.56	0.45	1.56	1.25						
CA (C)	11	0.91	0.57	3.44	1.99	11	1.69	0.97	8.30	4.82	
	12	1.24	1.24	3.32	3.32	12	2.03	2.03	7.78	7.78	
CA (NC)	16	1.33	1.33	2.15	2.15	16	2.12	2.12	4.58	4.58	
	17	2.69	2.69	7.97	7.97	17	3.78	3.78	18.45	18.45	
	17A	2.28	1.18	6.86	3.54	17A	3.48	1.82	13.91	7.25	
FA-Pr (C)	19	7.30	4.22	16.51	9.54	19	7.11	4.15	25.84	14.13	
	20	4.49	3.01	9.92	6.64	20	4.43	2.99	15.64	10.53	
	21	5.12	2.41	9.74	4.57	21	5.00	2.39	14.46	6.86	
FA-Pr (NC)	24	5.24	3.02	17.73	10.21	24	5.01	2.91	30.39	17.65	
	29	4.60	4.60	6.56	6.56	29	4.52	4.52	8.52	8.52	
	30	8.59	4.13	21.66	10.41	30	8.46	4.11	35.23	17.12	
FA-Pu (C)	34	6.09	6.09	24.97	24.97						
	35	3.19	3.19	6.09	6.09						
	35a	7.48	3.62	13.97	6.74						
	35b	5.46	0.00	12.27	0.00						
FB+FA (NC)	36	1.80	1.20	9.93	6.64	36	1.59	1.07	17.95	12.07	
	Max.	8.59	6.09	24.97	24.97	Max.	8.46	4.52	35.23	18.45	
	Min.	0.50	0.00	1.13	0.00	Min.	0.42	0.38	1.61	1.61	
	Mean	3.38	2.17	8.77	5.78	Mean	3.32	2.25	14.29	9.48	
	STD	2.45	1.60	6.51	5.18	STD	2.24	1.33	9.15	5.13	

MAXIMUM AND POTENTIAL FUNDING COST OF 100% CPI INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Funding Costs Under Standardized Actuarial Basis

Plan Type	Pre-Reform, Present Actuarial Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Funding Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
-----------	---	---	---	--	---	--

(Current Service/UFL Payments/Total Funding as Percent of Payroll)

FB(SE)

1	2.61 0.99 3.60	2.73 2.06 4.79	1.16 3.12 4.28	70% CPI	0.74 1.97 2.71	0.42 1.15 1.57
3	3.21 10.07 13.28	3.99 10.92 14.91	1.75 5.08 6.83	0% CPI	0.00 0.00 0.00	1.75 5.08 6.83
4	2.07 1.15 3.22	2.47 1.31 3.78	1.08 3.06 4.14	20% CPI	0.18 0.51 0.69	0.90 2.55 3.45
6a	1.55 0.80 2.35	1.04 0.15 1.19	0.50 0.63 1.13	0% CPI	0.00 0.00 0.00	0.50 0.63 1.13

FB(ME)

8	4.14 -0.07 4.07	3.15 -0.31 2.84	1.49 0.41 1.90	25% CPI	0.31 0.09 0.40	1.18 0.32 1.50
8c	1.25 0.37 1.62	1.23 0.34 1.57	0.56 1.00 1.56	25% CPI	0.11 0.20 0.31	0.45 0.80 1.25

CA(C)

11	5.58 -0.60 4.98	4.86 -2.17 2.69	0.91 2.53 3.44	50% CPI	0.34 1.11 1.45	0.57 1.42 1.99
12	3.85 0.21 4.06	3.51 -0.73 2.78	1.24 2.08 3.32	0% CPI	0.00 0.00 0.00	1.24 2.08 3.32

CA(NC)

16	3.11 -0.33 2.78	2.79 -0.45 2.34	1.33 0.82 2.15	0% CPI	0.00 0.00 0.00	1.33 0.82 2.15
17	5.10 2.52 7.62	4.97 0.97 5.94	2.69 5.28 7.97	0% CPI	0.00 0.00 0.00	2.69 5.28 7.97

17A	4.43	4.85	2.28		1.10	1.18
	-0.84	-0.32	4.58	55% CPI	2.22	2.36
	3.59	4.53	6.86		3.32	3.54
FA-Pr(C)						

19	10.90	12.37	7.30		3.08	4.22
	-1.60	-0.29	9.21	50% CPI	3.89	5.32
	9.30	12.08	16.51		6.97	9.54
20	8.80	9.13	4.49		1.48	3.01
	-4.28	-4.92	5.43	40% CPI	1.80	3.63
	4.52	4.21	9.92		3.28	6.64
21	9.46	9.43	5.12		2.71	2.41
	-0.52	-1.19	4.62	60% CPI	2.46	2.16
	8.94	8.24	9.74		5.17	4.57
FA-Pr(NC)						

24	4.28	9.06	5.24		2.22	3.02
	-0.27	5.15	12.49	50% CPI	5.30	7.19
	4.01	14.21	17.73		7.52	10.21
29	5.60	8.60	4.60		0.00	4.60
	-0.66	-0.43	1.96	0% CPI	0.00	1.96
	4.94	8.17	6.56		0.00	6.56
30	11.70	13.16	8.59		4.46	4.13
	-5.18	-4.36	13.07	60% CPI	6.79	6.28
	6.52	8.80	21.66		11.25	10.41
FA-Pu(C)						

34	14.18	12.13	6.09		0.00	6.09
	0.09	1.54	18.88	0% CPI	0.00	18.88
	14.27	13.67	24.97		0.00	24.97
35	11.11	14.08	3.19	Explicit Policy	0.00	3.19
	-1.53	-0.16	2.90	of Excess Over	0.00	2.90
	9.58	13.92	6.09	4.5%	0.00	6.09
				Equivalent to		
				55% CPI		
35a	10.57	11.10	7.48		3.86	3.62
	-1.07	-1.12	6.49	60% CPI	3.37	3.12
	9.50	9.98	13.97		7.23	6.74
35b	8.49	10.68	5.46		5.46	0.00
	-1.14	0.92	6.81	100% CPI	6.81	0.00
	7.35	11.60	12.27		12.27	0.00
FB+FA(NC)						

36	2.94	3.89	1.80		0.60	1.20
	4.55	4.84	8.13	40% CPI	2.69	5.44
	7.49	8.73	9.93		3.29	6.64

MAXIMUM AND POTENTIAL EXPENSING COST OF 100% CPI INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Expensing Costs Under Standardized Actuarial Basis

Plan Type Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
(Current Service/UFL Payments/Total Expensing as Percent of Payroll)					
FB(SE)					
1	2.24	1.02		0.64	0.38
	-0.05	6.18	70% CPI	3.88	2.30
	2.20	7.20		4.52	2.68
3	3.33	1.56		0.00	1.56
	8.35	10.06	0% CPI	0.00	10.06
	11.68	11.62		0.00	11.62
4	2.00	0.95		0.16	0.79
	1.20	6.15	20% CPI	1.01	5.14
	3.20	7.10		1.17	5.93
6a	0.83	0.42		0.00	0.42
	-0.08	1.19	0% CPI	0.00	1.19
	0.75	1.61		0.00	1.61
FB(ME)					
8			Not Applicable		
8c			Not Applicable		
CA(C)					
11	5.50	1.69		0.72	0.97
	-4.26	6.61	50% CPI	2.76	3.85
	1.24	8.30		3.48	4.82
12	3.72	2.03		0.00	2.03
	-0.54	5.75	0% CPI	0.00	5.75
	3.18	7.78		0.00	7.78
CA(NC)					
16	3.84	2.12		0.00	2.12
	0.01	2.46	0% CPI	0.00	2.46
	3.85	4.58		0.00	4.58

17	5.81 4.38 10.19	3.78 14.67 18.45	0% CPI	0.00 0.00 0.00	3.78 14.67 18.45
17A	6.61 -0.91 5.70	3.48 10.43 13.91	55% CPI	1.66 5.00 6.66	1.82 5.43 7.25
FA-Pr (C) -----					
19	11.15 -3.62 7.53	7.11 18.73 25.84	50% CPI	2.96 8.75 11.71	4.15 9.98 14.13
20	8.32 -12.13 -3.81	4.43 11.21 15.64	40% CPI	1.44 3.67 5.11	2.99 7.54 10.53
21	8.56 -4.12 4.44	5.00 9.46 14.46	60% CPI	2.61 4.99 7.60	2.39 4.47 6.86
FA-Pr (NC) -----					
24	8.01 6.40 14.41	5.01 25.38 30.39	50% CPI	2.10 10.64 12.74	2.91 14.74 17.65
29	7.80 -1.58 6.22	4.52 4.00 8.52	0% CPI	0.00 0.00 0.00	4.52 4.00 8.52
30	11.99 -12.78 -0.79	8.46 26.77 35.23	60% CPI	4.35 13.76 18.11	4.11 13.01 17.12
FA-Pu (C) -----					
34		Not Applicable			
35		Not Applicable			
35a		Not Applicable			
35b		Not Applicable			
FB+FA (NC) -----					
36	3.19 6.38 9.57	1.59 16.36 17.95	40% CPI	0.52 5.36 5.88	1.07 11.00 12.07

MAXIMUM AND POTENTIAL FUNDING AND EXPENSING COST OF 60% CPI

(Percent of Payroll)

		FUNDING					EXPENSING				
		PROSPECTIVE		RETROACTIVE		Plan	PROSPECTIVE		RETROACTIVE		Plan
		Max.	Pot'l	Max.	Pot'l		Max.	Pot'l	Max.	Pot'l	
		====	=====	====	=====	====	=====	=====	=====	=====	=====
FB (SE)	1	0.62	0.00	2.28	0.00	1	0.54	0.00	3.80	0.00	
	3	0.93	0.93	3.65	3.65	3	0.82	0.82	6.15	6.15	
	4	0.58	0.40	2.22	1.53	4	0.50	0.34	3.77	2.60	
	6a	0.26	0.26	0.59	0.59	6a	0.22	0.22	0.84	0.84	
FB (ME)	8	0.79	0.48	1.01	0.61						
	8c	0.29	0.18	0.81	0.50						
CA (C)	11	0.43	0.09	1.79	0.34	11	0.88	0.16	4.33	0.85	
	12	0.59	0.59	1.70	1.70	12	1.01	1.01	4.01	4.01	
CA (NC)	16	0.71	0.71	1.14	1.14	16	1.12	1.12	2.43	2.43	
	17	1.43	1.43	4.21	4.21	17	1.97	1.97	9.39	9.39	
	17A	1.22	0.12	3.67	0.35	17A	1.84	0.18	7.37	0.71	
FA-Pr (C)	19	3.82	0.74	8.65	1.68	19	3.68	0.72	13.37	2.61	
	20	2.39	0.91	5.29	2.01	20	2.33	0.89	8.27	3.16	
	21	2.71	0.00	5.17	0.00	21	2.61	0.00	7.60	0.00	
FA-Pr (NC)	24	2.76	0.54	9.32	1.80	24	2.60	0.50	15.80	3.06	
	29	2.45	2.45	3.47	3.47	29	2.38	2.38	4.46	4.46	
	30	4.46	0.00	11.25	0.00	30	4.35	0.00	18.11	0.00	
FA-Pu (C)	34	2.61	2.61	11.58	11.58						
	35	0.31	0.31	0.59	0.59						
	35a	3.86	0.00	7.23	0.00						
	35b	2.88	0.00	6.49	0.00						
FB+FA (NC)	36	0.97	0.37	5.31	2.02	36	0.84	0.32	9.52	3.64	
Max.		4.46	2.61	11.58	11.58	Max.	4.35	2.38	18.11	9.39	
Min.		0.26	0.00	0.59	0.00	Min.	0.22	0.00	0.84	0.00	
Mean		1.69	0.60	4.43	1.72	Mean	1.73	0.66	7.45	2.74	
STD		1.29	0.71	3.34	2.47	STD	1.16	0.68	4.71	2.44	

MAXIMUM AND POTENTIAL FUNDING COST OF 60% CPI INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Funding Costs Under Standardized Actuarial Basis

Plan Type	Pre-Reform, Present Actuarial Basis	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Funding Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
(Current Service/UFL Payments/Total Funding as Percent of Payroll)						
FB(SE)						

1	2.61	2.73	0.62		0.74	0.00
	0.99	2.06	1.66	70% CPI	1.97	0.00
	3.60	4.79	2.28		2.71	0.00
3	3.21	3.99	0.93		0.00	0.93
	10.07	10.92	2.72	0% CPI	0.00	2.72
	13.28	14.91	3.65		0.00	3.65
4	2.07	2.47	0.58		0.18	0.40
	1.15	1.31	1.64	20% CPI	0.51	1.13
	3.22	3.78	2.22		0.69	1.53
6a	1.55	1.04	0.26		0.00	0.26
	0.80	0.15	0.33	0% CPI	0.00	0.33
	2.35	1.19	0.59		0.00	0.59
FB(ME)						

8	4.14	3.15	0.79		0.31	0.48
	-0.07	-0.31	0.22	25% CPI	0.09	0.13
	4.07	2.84	1.01		0.40	0.61
8c	1.25	1.23	0.29		0.11	0.18
	0.37	0.34	0.52	25% CPI	0.20	0.32
	1.62	1.57	0.81		0.31	0.50
CA(C)						

11	5.58	4.86	0.43		0.34	0.09
	-0.60	-2.17	1.36	50% CPI	1.11	0.25
	4.98	2.69	1.79		1.45	0.34
12	3.85	3.51	0.59		0.00	0.59
	0.21	-0.73	1.11	0% CPI	0.00	1.11
	4.06	2.78	1.70		0.00	1.70
CA(NC)						

16	3.11	2.79	0.71		0.00	0.71
	-0.33	-0.45	0.43	0% CPI	0.00	0.43
	2.78	2.34	1.14		0.00	1.14

17	5.10	4.97	1.43		0.00	1.43
	2.52	0.97	2.78	0% CPI	0.00	2.78
	7.62	5.94	4.21		0.00	4.21
17A	4.43	4.85	1.22		1.10	0.12
	-0.84	-0.32	2.45	55% CPI	2.22	0.23
	3.59	4.53	3.67		3.32	0.35
FA-Pr (C)						

19	10.90	12.37	3.82		3.08	0.74
	-1.60	-0.29	4.83	50% CPI	3.89	0.94
	9.30	12.08	8.65		6.97	1.68
20	8.80	9.13	2.39		1.48	0.91
	-4.28	-4.92	2.90	40% CPI	1.80	1.10
	4.52	4.21	5.29		3.28	2.01
21	9.46	9.43	2.71		2.71	0.00
	-0.52	-1.19	2.46	60% CPI	2.46	0.00
	8.94	8.24	5.17		5.17	0.00
FA-Pr (NC)						

24	4.28	9.06	2.76		2.22	0.54
	-0.27	5.15	6.56	50% CPI	5.30	1.26
	4.01	14.21	9.32		7.52	1.80
29	5.60	8.60	2.45		0.00	2.45
	-0.66	-0.43	1.02	0% CPI	0.00	1.02
	4.94	8.17	3.47		0.00	3.47
30	11.70	13.16	4.46		4.46	0.00
	-5.18	-4.36	6.79	60% CPI	6.79	0.00
	6.52	8.80	11.25		11.25	0.00
FA-Pu (C)						

34	14.18	12.13	2.61		0.00	2.61
	0.09	1.54	8.97	0% CPI	0.00	8.97
	14.27	13.67	11.58		0.00	11.58
35	11.11	14.08	0.31	Explicit Policy	0.00	0.31
	-1.53	-0.16	0.28	of Excess Over	0.00	0.28
	9.58	13.92	0.59	4.5%	0.00	0.59
				Equivalent to		
				55% CPI		
35a	10.57	11.10	3.86		3.86	0.00
	-1.07	-1.12	3.37	60% CPI	3.37	0.00
	9.50	9.98	7.23		7.23	0.00
35b	8.49	10.68	2.88		5.46	0.00
	-1.14	0.92	3.61	100% CPI	6.81	0.00
	7.35	11.60	6.49		12.27	0.00
FB+FA (NC)						

36	2.94	3.89	0.97		0.60	0.37
	4.55	4.84	4.34	40% CPI	2.69	1.65
	7.49	8.73	5.31		3.29	2.02

MAXIMUM AND POTENTIAL EXPENSING COST OF 60% CPI INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Expensing Costs Under Standardized Actuarial Basis

Plan Type Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Expensing Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
(Current Service/UFL Payments/Total Expensing as Percent of Payroll)					
FB(SE)					
1	2.24	0.54		0.64	0.00
	-0.45	3.26	70% CPI	3.88	0.00
	1.79	3.80		4.52	0.00
3	3.33	0.82		0.00	0.82
	8.35	5.33	0% CPI	0.00	5.33
	11.68	6.15		0.00	6.15
4	2.00	0.50		0.16	0.34
	1.20	3.27	20% CPI	1.01	2.26
	3.20	3.77		1.17	2.60
6a	0.83	0.22		0.00	0.22
	-0.08	0.62	0% CPI	0.00	0.62
	0.75	0.84		0.00	0.84
FB(ME)					
8			Not Applicable		
8c			Not Applicable		
CA(C)					
11	5.50	0.88		0.72	0.16
	-4.26	3.45	50% CPI	2.76	0.69
	1.24	4.33		3.48	0.85
12	3.72	1.01		0.00	1.01
	-0.54	3.00	0% CPI	0.00	3.00
	3.18	4.01		0.00	4.01
CA(NC)					
16	3.84	1.12		0.00	1.12
	0.01	1.31	0% CPI	0.00	1.31
	3.85	2.43		0.00	2.43
17	5.81	1.97		0.00	1.97
	4.38	7.42	0% CPI	0.00	7.42
	10.19	9.39		0.00	9.39

17A	6.61	1.84		1.66	0.18
	-0.91	5.53	55% CPI	5.00	0.53
	5.70	7.37		6.66	0.71
FA-Pr(C)					

19	11.15	3.68		2.96	0.72
	-3.62	9.69	50% CPI	7.80	1.89
	7.53	13.37		10.76	2.61
20	8.32	2.33		1.44	0.89
	-12.13	5.94	40% CPI	3.67	2.27
	-3.81	8.27		5.11	3.16
21	8.56	2.61		2.61	0.00
	-4.12	4.99	60% CPI	4.99	0.00
	4.44	7.60		7.60	0.00
FA-Pr(NC)					

24	8.01	2.60		2.10	0.50
	6.40	13.20	50% CPI	10.64	2.56
	14.41	15.80		12.74	3.06
29	7.80	2.38		0.00	2.38
	-1.58	2.08	0% CPI	0.00	2.08
	6.22	4.46		0.00	4.46
30	11.99	4.35		4.35	0.00
	-12.78	13.76	60% CPI	13.76	0.00
	-0.79	18.11		18.11	0.00
FA-Pu(C)					

34			Not Applicable		
35			Not Applicable		
35a			Not Applicable		
35b			Not Applicable		
FB+FA(NC)					

36	3.19	0.84		0.52	0.32
	6.38	8.68	40% CPI	5.36	3.32
	9.57	9.52		5.88	3.64

MAXIMUM AND POTENTIAL FUNDING AND EXPENSING COST OF (75% CPI)-1.0%
=====

(Percent of Payroll)

FUNDING						EXPENSING					
=====						=====					
		PROSPECTIVE		RETROACTIVE				PROSPECTIVE		RETROACTIVE	
		=====		=====				=====		=====	
	Plan	Max.	Pot'l	Max.	Pot'l	Plan	Max.	Pot'l	Max.	Pot'l	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
FB (SE)	1	0.54	0.00	1.98	0.00	1	0.49	0.00	3.43	0.00	
	3	0.80	0.80	3.16	3.16	3	0.74	0.74	5.56	5.56	
	4	0.50	0.32	1.92	1.23	4	0.45	0.29	3.41	2.24	
	6a	0.23	0.23	0.51	0.51	6a	0.19	0.19	0.74	0.74	
FB (ME)	8	0.69	0.38	0.88	0.48						
	8c	0.25	0.14	0.70	0.39						
CA (C)	11	0.37	0.03	1.55	0.10	11	0.80	0.08	3.90	0.42	
	12	0.50	0.50	1.46	1.46	12	0.91	0.91	3.62	3.62	
CA (NC)	16	0.61	0.61	0.98	0.98	16	1.01	1.01	2.20	2.20	
	17	1.24	1.24	3.65	3.65	17	1.77	1.77	8.47	8.47	
	17A	1.06	0.00	3.19	0.00	17A	1.66	0.00	6.66	0.00	
FA-Pr (C)	19	3.30	0.22	7.47	0.50	19	3.32	0.36	12.07	1.31	
	20	2.07	0.59	4.59	1.31	20	2.11	0.67	7.48	2.37	
	21	2.35	0.00	4.48	0.00	21	2.36	0.00	6.87	0.00	
FA-Pr (NC)	24	2.38	0.16	8.06	0.54	24	2.35	0.25	14.27	1.53	
	29	2.13	2.13	3.02	3.02	29	2.15	2.15	4.03	4.03	
	30	3.86	0.00	9.73	0.00	30	3.92	0.00	16.33	0.00	
FA-Pu (C)	34	2.08	2.08	9.84	9.84						
	35	0.00	0.00	0.00	0.00						
	35a	3.33	0.00	6.24	0.00						
	35b	2.49	0.00	5.61	0.00						
FB+FA (NC)	36	0.84	0.24	4.60	1.31	36	0.76	0.24	8.61	2.73	
	Max.	3.86	2.13	9.84	9.84	Max.	3.92	2.15	16.33	8.47	
	Min.	0.00	0.00	0.00	0.00	Min.	0.19	0.00	0.74	0.00	
	Mean	1.44	0.44	3.80	1.29	Mean	1.56	0.54	6.73	2.20	
	STD	1.13	0.61	2.89	2.15	STD	1.05	0.63	4.25	2.27	

MAXIMUM AND POTENTIAL FUNDING COST OF 75% CPI-1.0% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Funding Costs Under Standardized Actuarial Basis

Plan Type	Pre-Reform, Present Actuarial Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Funding Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
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(Current Service/UFL Payments/Total Funding as Percent of Payroll)

FB(SE)

1	2.61	2.73	0.54		0.74	0.00
	0.99	2.06	1.44	70% CPI	1.97	0.00
	3.60	4.79	1.98		2.71	0.00
3	3.21	3.99	0.80		0.00	0.80
	10.07	10.92	2.36	0% CPI	0.00	2.36
	13.28	14.91	3.16		0.00	3.16
4	2.07	2.47	0.50		0.18	0.32
	1.15	1.31	1.42	20% CPI	0.51	0.91
	3.22	3.78	1.92		0.69	1.23
6a	1.55	1.04	0.23		0.00	0.23
	0.80	0.15	0.28	0% CPI	0.00	0.28
	2.35	1.19	0.51		0.00	0.51

FB(ME)

8	4.14	3.15	0.69		0.31	0.38
	-0.07	-0.31	0.19	25% CPI	0.09	0.10
	4.07	2.84	0.88		0.40	0.48
8c	1.25	1.23	0.25		0.11	0.14
	0.37	0.34	0.45	25% CPI	0.20	0.25
	1.62	1.57	0.70		0.31	0.39

CA(C)

11	5.58	4.86	0.37		0.34	0.03
	-0.60	-2.17	1.18	50% CPI	1.11	0.07
	4.98	2.69	1.55		1.45	0.10
12	3.85	3.51	0.50		0.00	0.50
	0.21	-0.73	0.96	0% CPI	0.00	0.96
	4.06	2.78	1.46		0.00	1.46

CA(NC)

16	3.11	2.79	0.61		0.00	0.61
	-0.33	-0.45	0.37	0% CPI	0.00	0.37
	2.78	2.34	0.98		0.00	0.98

17	5.10	4.97	1.24	0% CPI	0.00	1.24
	2.52	0.97	2.41		0.00	2.41
	7.62	5.94	3.65		0.00	3.65
17A	4.43	4.85	1.06	55% CPI	1.10	0.00
	-0.84	-0.32	2.13		2.22	0.00
	3.59	4.53	3.19		3.32	0.00
FA-Pr(C)						

19	10.90	12.37	3.30	50% CPI	3.08	0.22
	-1.60	-0.29	4.17		3.89	0.28
	9.30	12.08	7.47		6.97	0.50
20	8.80	9.13	2.07	40% CPI	1.48	0.59
	-4.28	-4.92	2.52		1.80	0.72
	4.52	4.21	4.59		3.28	1.31
21	9.46	9.43	2.35	60% CPI	2.71	0.00
	-0.52	-1.19	2.13		2.46	0.00
	8.94	8.24	4.48		5.17	0.00
FA-Pr(NC)						

24	4.28	9.06	2.38	50% CPI	2.22	0.16
	-0.27	5.15	5.68		5.30	0.38
	4.01	14.21	8.06		7.52	0.54
29	5.60	8.60	2.13	0% CPI	0.00	2.13
	-0.66	-0.43	0.89		0.00	0.89
	4.94	8.17	3.02		0.00	3.02
30	11.70	13.12	3.86	60% CPI	4.46	0.00
	-5.18	-4.36	5.87		6.79	0.00
	6.52	8.76	9.73		11.25	0.00
FA-Pu(C)						

34	14.18	12.13	2.08	0% CPI	0.00	2.08
	0.09	1.54	7.76		0.00	7.76
	14.27	13.67	9.84		0.00	9.84
35	11.11	14.08	0.00	Explicit Policy of Excess Over 4.5% Equivalent to 55% CPI	0.00	0.00
	-1.53	-0.16	0.00		0.00	0.00
	9.58	13.92	0.00		0.00	0.00
35a	10.57	11.10	3.33	60% CPI	3.86	0.00
	-1.07	-1.12	2.91		3.37	0.00
	9.50	9.98	6.24		7.23	0.00
35b	8.49	10.68	2.49	100% CPI	5.46	0.00
	-1.14	0.92	3.12		6.81	0.00
	7.35	11.60	5.61		12.27	0.00
FB+FA(NC)						

36	2.94	3.89	0.84	40% CPI	0.60	0.24
	4.55	4.84	3.76		2.69	1.07
	7.49	8.73	4.60		3.29	1.31

MAXIMUM AND POTENTIAL EXPENSING COST OF 75% CPI-1.0% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Expensing Costs Under Standardized Actuarial Basis

Plan Type Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Expensing Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
	=====				
	(Current Service/UFL Payments/Total Expensing as Percent of Payroll)				
	FB(SE)				
1	2.24	0.49		0.64	0.00
	-0.45	2.94	70% CPI	3.88	0.00
	1.79	3.43		4.52	0.00
3	3.33	0.74		0.00	0.74
	8.35	4.82	0% CPI	0.00	4.82
	11.68	5.56		0.00	5.56
4	2.00	0.45		0.16	0.29
	1.20	2.96	20% CPI	1.01	1.95
	3.20	3.41		1.17	2.24
6a	0.83	0.19		0.00	0.19
	-0.08	0.55	0% CPI	0.00	0.55
	0.75	0.74		0.00	0.74
FB(ME)					
8			Not Applicable		
8c			Not Applicable		
CA(C)					
11	0.50	0.80		0.72	0.08
	-4.26	3.10	50% CPI	2.76	0.34
	-3.76	3.90		3.48	0.42
12	3.72	0.91		0.00	0.91
	-0.54	2.71	0% CPI	0.00	2.71
	3.18	3.62		0.00	3.62
CA(NC)					
16	3.84	1.01		0.00	1.01
	0.01	1.19	0% CPI	0.00	1.19
	3.85	2.20		0.00	2.20
17	5.81	1.77		0.00	1.77
	4.38	6.70	0% CPI	0.00	6.70
	10.19	8.47		0.00	8.47

17A	6.61	1.66		1.66	0.00
	-0.91	5.00	55% CPI	5.00	0.00
	5.70	6.66		6.66	0.00
FA-Pr (C)					

19	11.15	3.32		2.96	0.36
	-3.62	8.75	50% CPI	7.80	0.95
	7.53	12.07		10.76	1.31
20	8.32	2.11		1.44	0.67
	-12.13	5.37	40% CPI	3.67	1.70
	-3.81	7.48		5.11	2.37
21	8.56	2.36		2.61	0.00
	-4.12	4.51	60% CPI	4.99	0.00
	4.44	6.87		7.60	0.00
FA-Pr (NC)					

24	8.01	2.35		2.10	0.25
	6.40	11.92	50% CPI	10.64	1.28
	14.41	14.27		12.74	1.53
29	7.80	2.15		0.00	2.15
	-1.58	1.88	0% CPI	0.00	1.88
	6.22	4.03		0.00	4.03
30	11.99	3.92		4.35	0.00
	-12.78	12.41	60% CPI	13.76	0.00
	-0.79	16.33		18.11	0.00
FA-Pu (C)					

34			Not Applicable		
35			Not Applicable		
35a			Not Applicable		
35b			Not Applicable		
FB+FA (NC)					

36	3.19	0.76		0.52	0.24
	6.38	7.85	40% CPI	5.36	2.49
	9.57	8.61		5.88	2.73

MAXIMUM AND POTENTIAL FUNDING AND EXPENSING COST OF (100% CPI)-2.5%

(Percent of Payroll)

FUNDING						EXPENSING					
=====						=====					
		PROSPECTIVE		RETROACTIVE				PROSPECTIVE		RETROACTIVE	
		=====		=====				=====		=====	
	Plan	Max.	Pot'l	Max.	Pot'l	Plan	Max.	Pot'l	Max.	Pot'l	
	====	====	=====	=====	=====	====	=====	=====	=====	=====	
FB (SE)	1	0.43	0.00	1.59	0.00	1	0.43	0.00	3.06	0.00	
	3	0.64	0.64	2.54	2.54	3	0.66	0.66	4.97	4.97	
	4	0.40	0.22	1.54	0.85	4	0.41	0.25	3.06	1.89	
	6a	0.19	0.19	0.42	0.42	6a	0.17	0.17	0.66	0.66	
FB (ME)	8	0.55	0.24	0.71	0.31						
	8c	0.20	0.09	0.56	0.25						
CA (C)	11	0.29	0.00	1.24	0.00	11	0.72	0.00	3.48	0.00	
	12	0.39	0.39	1.15	1.15	12	0.81	0.81	3.23	3.23	
CA (NC)	16	0.49	0.49	0.78	0.78	16	0.91	0.91	1.98	1.98	
	17	0.99	0.99	2.92	2.92	17	1.58	1.58	7.56	7.56	
	17A	0.85	0.00	2.56	0.00	17A	1.48	0.00	5.95	0.00	
FA-Pr (C)	19	2.64	0.00	5.97	0.00	19	3.56	0.00	12.41	0.00	
	20	1.66	0.18	3.68	0.40	20	1.89	0.45	6.69	1.58	
	21	1.88	0.00	3.59	0.00	21	2.11	0.00	6.14	0.00	
FA-Pr (NC)	24	1.90	0.00	6.44	0.00	24	2.10	0.00	12.74	0.00	
	29	1.71	1.71	2.42	2.42	29	1.92	1.92	3.59	3.59	
	30	3.08	0.00	7.77	0.00	30	3.08	0.00	7.77	0.00	
FA-Pu (C)	34	1.40	1.40	7.60	7.60						
	35	0.00	0.00	0.00	0.00						
	35a	2.65	0.00	4.96	0.00						
	35b	1.99	0.00	4.49	0.00						
FB+FA (NC)	36	0.67	0.07	3.69	0.40	36	0.68	0.16	7.70	1.82	
	Max.	3.08	1.71	7.77	7.60	Max.	3.56	1.92	12.74	7.56	
	Min.	0.00	0.00	0.00	0.00	Min.	0.17	0.00	0.66	0.00	
	Mean	1.14	0.30	3.03	0.91	Mean	1.41	0.43	5.69	1.70	
	STD	0.89	0.47	2.29	1.70	STD	0.95	0.58	3.32	2.13	

MAXIMUM AND POTENTIAL FUNDING COST OF 100% CPI-2.5% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Funding Costs Under Standardized Actuarial Basis

Plan Type	Pre-Reform, Present Actuarial Basis	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Funding Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
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(Current Service/UFL Payments/Total Funding as Percent of Payroll)

FB (SE)

1	2.61	2.73	0.43			
	0.99	2.06	1.16	70% CPI	0.74	0.00
	3.60	4.79	1.59		1.97	0.00
					2.71	0.00
3	3.21	3.99	0.64		0.00	0.64
	10.07	10.92	1.90	0% CPI	0.00	1.90
	13.28	14.91	2.54		0.00	2.54
4	2.07	2.47	0.40		0.18	0.22
	1.15	1.31	1.14	20% CPI	0.51	0.63
	3.22	3.78	1.54		0.69	0.85
6a	1.55	1.04	0.19		0.00	0.19
	0.80	0.15	0.23	0% CPI	0.00	0.23
	2.35	1.19	0.42		0.00	0.42

FB (ME)

8	4.14	3.15	0.55		0.31	0.24
	-0.07	-0.31	0.16	25% CPI	0.09	0.07
	4.07	2.84	0.71		0.40	0.31
8c	1.25	1.23	0.20		0.11	0.09
	0.37	0.34	0.36	25% CPI	0.20	0.16
	1.62	1.57	0.56		0.31	0.25

CA (C)

11	5.58	4.86	0.29		0.34	0.00
	-0.60	-2.17	0.95	50% CPI	1.11	0.00
	4.98	2.69	1.24		1.45	0.00
12	3.85	3.51	0.39		0.00	0.39
	0.21	-0.73	0.76	0% CPI	0.00	0.76
	4.06	2.78	1.15		0.00	1.15

CA (NC)

16	3.11	2.79	0.49		0.00	0.49
	-0.33	-0.45	0.29	0% CPI	0.00	0.29
	2.78	2.34	0.78		0.00	0.78

17	5.10	4.97	0.99		0.00	0.99
	2.52	0.97	1.93	0% CPI	0.00	1.93
	7.62	5.94	2.92		0.00	2.92
17A	4.43	4.85	0.85		1.10	0.00
	-0.84	-0.32	1.71	55% CPI	2.22	0.00
	3.59	4.53	2.56		3.32	0.00
FA-Pr(C)						

19	10.90	12.37	2.64		3.08	0.00
	-1.60	-0.29	3.33	50% CPI	3.89	0.00
	9.30	12.08	5.97		6.97	0.00
20	8.80	9.13	1.66		1.48	0.18
	-4.28	-4.92	2.02	40% CPI	1.80	0.22
	4.52	4.21	3.68		3.28	0.40
21	9.46	9.43	1.88		2.71	0.00
	-0.52	-1.19	1.71	60% CPI	2.46	0.00
	8.94	8.24	3.59		5.17	0.00
FA-Pr(NC)						

24	4.28	9.06	1.90		2.22	0.00
	-0.27	5.15	4.54	50% CPI	5.30	0.00
	4.01	14.21	6.44		7.52	0.00
29	5.60	8.60	1.71		0.00	1.71
	-0.66	-0.43	0.71	0% CPI	0.00	0.71
	4.94	8.17	2.42		0.00	2.42
30	11.70	13.16	3.08		4.46	0.00
	-5.18	-4.36	4.69	60% CPI	6.79	0.00
	6.52	8.80	7.77		11.25	0.00
FA-Pu(C)						

34	14.18	12.13	1.40		0.00	1.40
	0.09	1.54	6.20	0% CPI	0.00	6.20
	14.27	13.67	7.60		0.00	7.60
35	11.11	14.08	0.00	Explicit Policy of Excess Over 4.5% Equivalent to 55% CPI	0.00	0.00
	-1.53	-0.16	0.00		0.00	0.00
	9.58	13.92	0.00		0.00	0.00
35a	10.57	11.10	2.65		3.86	0.00
	-1.07	-1.12	2.31	60% CPI	3.37	0.00
	9.50	9.98	4.96		7.23	0.00
35b	8.49	10.68	1.99		5.46	0.00
	-1.14	0.92	2.50	100% CPI	6.81	0.00
	7.35	11.60	4.49		12.27	0.00
FB+FA(NC)						

36	2.94	3.89	0.67		0.60	0.07
	4.55	4.84	3.02	40% CPI	2.69	0.33
	7.49	8.73	3.69		3.29	0.40

MAXIMUM AND POTENTIAL EXPENSING COST OF 100%CPI-2.5% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Expensing Costs Under Standardized Actuarial Basis

Plan Type Number	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
(Current Service/UFL Payments/Total Expensing as Percent of Payroll)					
FB(SE)					
1	2.24	0.43		0.64	0.00
	-0.45	2.63	70% CPI	3.88	0.00
	1.79	3.06		4.52	0.00
3	3.33	0.66		0.00	0.66
	8.35	4.31	0% CPI	0.00	4.31
	11.68	4.97		0.00	4.97
4	2.00	0.41		0.16	0.25
	1.20	2.65	20% CPI	1.01	1.64
	3.20	3.06		1.17	1.89
6a	0.83	0.17		0.00	0.17
	-0.08	0.49	0% CPI	0.00	0.49
	0.75	0.66		0.00	0.66
FB(ME)					
8			Not Applicable		
8c			Not Applicable		
CA(C)					
11	5.50	0.72		0.72	0.00
	-4.26	2.76	50% CPI	2.76	0.00
	1.24	3.48		3.48	0.00
12	3.72	0.81		0.00	0.81
	-0.54	2.42	0% CPI	0.00	2.42
	3.18	3.23		0.00	3.23
CA(NC)					
16	3.84	0.91		0.00	0.91
	0.01	1.07	0% CPI	0.00	1.07
	3.85	1.98		0.00	1.98

17	5.81	1.58		0.00	1.58
	4.38	5.98	0% CPI	0.00	5.98
	10.19	7.56		0.00	7.56
17A	6.61	1.48		1.66	0.00
	-0.91	4.47	55% CPI	5.00	0.00
	5.70	5.95		6.66	0.00
FA-Pr(C) -----					
19	11.15	3.56		3.56	0.00
	-3.62	8.85	50% CPI	8.85	0.00
	7.53	12.41		12.41	0.00
20	8.32	1.89		1.44	0.45
	-12.13	4.80	40% CPI	3.67	1.13
	-3.81	6.69		5.11	1.58
21	8.56	2.11		2.61	0.00
	-4.12	4.03	60% CPI	4.99	0.00
	4.44	6.14		7.60	0.00
FA-Pr(NC) -----					
24	8.01	2.10		2.10	0.00
	6.40	10.64	50% CPI	10.64	0.00
	14.41	12.74		12.74	0.00
29	7.80	1.92		0.00	1.92
	-1.58	1.67	0% CPI	0.00	1.67
	6.22	3.59		0.00	3.59
30	11.70	3.08		4.35	0.00
	-5.18	4.69	60% CPI	6.79	0.00
	6.52	7.77		11.14	0.00
FA-Pu(C) -----					
34			Not Applicable		
35			Not Applicable		
35a			Not Applicable		
35b			Not Applicable		
FB+FA (NC) -----					
36	3.19	0.68		0.52	0.16
	6.38	7.02	40% CPI	5.36	1.66
	9.57	7.70		5.88	1.82

MAXIMUM AND POTENTIAL FUNDING AND EXPENSING COST OF FUND RATE-3.5%

(Percent of Payroll)

		FUNDING						EXPENSING			
		=====						=====			
		PROSPECTIVE		RETROACTIVE				PROSPECTIVE		RETROACTIVE	
		=====						=====			
	Plan	Max.	Pot'l	Max.	Pot'l	Plan	Max.	Pot'l	Max.	Pot'l	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
FB (SE)	1	0.88	0.14	3.23	0.52	1	0.93	0.29	6.57	2.05	
	3	1.32	1.32	5.17	5.17	3	1.42	1.42	10.61	10.61	
	4	0.82	0.64	3.14	2.45	4	0.87	0.71	6.49	5.32	
	6a	0.37	0.37	0.84	0.84	6a	0.38	0.38	1.46	1.46	
FB (ME)	8	1.12	0.81	1.43	1.03						
	8c	0.42	0.31	1.17	0.86						
CA (C)	11	0.64	0.30	2.56	1.11	11	1.54	0.82	7.58	4.10	
	12	0.89	0.89	2.47	2.47	12	1.84	1.84	7.09	7.09	
CA (NC)	16	1.00	1.00	1.61	1.61	16	1.94	1.94	4.19	4.19	
	17	2.03	2.03	6.00	6.00	17	3.45	3.45	16.76	16.76	
FA-Pr (C)	17A	1.73	0.63	5.20	1.88	17A	3.18	1.52	12.71	6.05	
	19	5.47	2.39	12.38	5.41	19	6.48	3.52	23.54	12.78	
	20	3.40	1.92	7.51	4.23	20	4.04	2.60	14.28	9.17	
FA-Pr (NC)	21	3.86	1.15	7.35	2.18	21	4.56	1.95	13.20	5.60	
	24	3.94	1.72	13.32	5.80	24	4.57	2.47	27.71	14.97	
	29	3.48	3.48	4.95	4.95	29	4.13	4.13	7.78	7.78	
FA-Pu (C)	30	6.42	1.96	16.18	4.93	30	7.70	3.35	32.06	13.95	
	34	4.27	4.27	17.70	17.70						
	35	1.69	1.69	3.22	3.22						
	35a	5.57	1.71	10.42	3.19						
	35b	4.11	0.00	9.25	0.00						
FB+FA (NC)	36	1.37	0.77	7.52	4.23	36	1.45	0.93	16.42	10.54	
	Max.	6.42	4.27	17.70	17.70	Max.	7.70	4.13	32.06	16.76	
	Min.	0.37	0.00	0.84	0.00	Min.	0.38	0.29	1.46	1.46	
	Mean	2.49	1.34	6.48	3.63	Mean	3.03	1.96	13.03	8.28	
	STD	1.83	1.05	4.80	3.58	STD	2.04	1.16	8.33	4.49	

MAXIMUM AND POTENTIAL FUNDING COST OF FUND RATE-3.5% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Funding Costs Under Standardized Actuarial Basis

			Maximum		Offset	
	Pre-Reform,	Post-Reform,	Incremental	Estimated	Due to	Potential
	Present	Assuming	Funding	Implicit	Implicit	Cost of
		Reforms	Cost of	Inflation	Inflation	Mandatory
Plan Type	Actuarial	Adopted	Inflation	Protection	Protection	Inflation
Number	Basis	Retroactively	Protection	% of CPI	Policy	Protection
=====						
(Current Service/UFL Payments/Total Funding as Percent of Payroll)						
=====						
FB(SE)						

1	2.61	2.73	0.88		0.74	0.14
	0.99	2.06	2.35	70% CPI	1.97	0.38
	3.60	4.79	3.23		2.71	0.52
3	3.21	3.99	1.32		0.00	1.32
	10.07	10.92	3.85	0% CPI	0.00	3.85
	13.28	14.91	5.17		0.00	5.17
4	2.07	2.47	0.82		0.18	0.64
	1.15	1.31	2.32	20% CPI	0.51	1.81
	3.22	3.78	3.14		0.69	2.45
6a	1.55	1.04	0.37		0.00	0.37
	0.80	0.15	0.47	0% CPI	0.00	0.47
	2.35	1.19	0.84		0.00	0.84
FB(ME)						

8	4.14	3.15	1.12		0.31	0.81
	-0.07	-0.31	0.31	25% CPI	0.09	0.22
	4.07	2.84	1.43		0.40	1.03
8c	1.25	1.23	0.42		0.11	0.31
	0.37	0.34	0.75	25% CPI	0.20	0.55
	1.62	1.57	1.17		0.31	0.86
CA (C)						

11	5.58	4.86	0.64		0.34	0.30
	-0.60	-2.17	1.92	50% CPI	1.11	0.81
	4.98	2.69	2.56		1.45	1.11
12	3.85	3.51	0.89		0.00	0.89
	0.21	-0.73	1.58	0% CPI	0.00	1.58
	4.06	2.78	2.47		0.00	2.47
CA (NC)						

16	3.11	2.79	1.00		0.00	1.00
	-0.33	-0.45	0.61	0% CPI	0.00	0.61
	2.78	2.34	1.61		0.00	1.61

17	5.10 2.52 7.62	4.97 0.97 5.94	2.03 3.97 6.00		0.00 0.00 0.00	2.03 3.97 6.00
17A	4.43 -0.84 3.59	4.85 -0.32 4.53	1.73 3.47 5.20		1.10 2.22 3.32	0.63 1.25 1.88
FA-Pr (C)						

19	10.90 -1.60 9.30	12.37 -0.29 12.08	5.47 6.91 12.38		3.08 3.89 6.97	2.39 3.02 5.41
20	8.80 -4.28 4.52	9.13 -4.92 4.21	3.40 4.11 7.51		1.48 1.80 3.28	1.92 2.31 4.23
21	9.46 -0.52 8.94	9.43 -1.19 8.24	3.86 3.49 7.35		2.71 2.46 5.17	1.15 1.03 2.18
FA-Pr (NC)						

24	4.28 -0.27 4.01	9.06 5.15 14.21	3.94 9.38 13.32		2.22 5.30 7.52	1.72 4.08 5.80
29	5.60 -0.66 4.94	8.60 -0.43 8.17	3.48 1.47 4.95		0.00 0.00 0.00	3.48 1.47 4.95
30	11.70 -5.18 6.52	13.16 -4.36 8.80	6.42 9.76 16.18		4.46 6.79 11.25	1.96 2.97 4.93
FA-Pu (C)						

34	14.18 0.09 14.27	12.13 1.54 13.67	4.27 13.43 17.70		0.00 0.00 0.00	4.27 13.43 17.70
35	11.11 -1.53 9.58	14.08 -0.16 13.92	1.69 1.53 3.22	Explicit Policy of Excess Over 4.5%	0.00 0.00 0.00	1.69 1.53 3.22
				Equivalent to 55% CPI		
35a	10.57 -1.07 9.50	11.10 -1.12 9.98	5.57 4.85 10.42		3.86 3.37 7.23	1.71 1.48 3.19
35b	8.49 -1.14 7.35	10.68 0.92 11.60	4.11 5.14 9.25		5.46 6.81 12.27	0.00 0.00 0.00
FB+FA (NC)						

36	2.94 4.55 7.49	3.89 4.84 8.73	1.37 6.15 7.52		0.60 2.69 3.29	0.77 3.46 4.23

MAXIMUM AND POTENTIAL EXPENSING COST OF FUND RATE-3.5% INFLATION PROTECTION

(PROSPECTIVE AND RETROACTIVE)

Expensing Costs Under Standardized Actuarial Basis

Plan Type Number =====	Post-Reform, Assuming Reforms Adopted Retroactively	Maximum Incremental Cost of Inflation Protection	Estimated Implicit Inflation Protection % of CPI	Offset Due to Implicit Inflation Protection Policy	Potential Cost of Mandatory Inflation Protection
(Current Service/UFL Payments/Total Expensing as Percent of Payroll)					
FB(SE) -----					
1	2.24 -0.45 1.79	0.93 5.64 6.57	70% CPI	0.64 3.88 4.52	0.29 1.76 2.05
3	3.33 8.35 11.68	1.42 9.19 10.61	0% CPI	0.00 0.00 0.00	1.42 9.19 10.61
4	2.00 1.20 3.20	0.87 5.62 6.49	20% CPI	0.16 1.01 1.17	0.71 4.61 5.32
6a	0.83 -0.08 0.75	0.38 1.08 1.46	0% CPI	0.00 0.00 0.00	0.38 1.08 1.46
FB(ME) -----					
8			Not Applicable		
8c			Not Applicable		
CA(C) -----					
11	5.50 -4.26 1.24	1.54 6.04 7.58	50% CPI	0.72 2.76 3.48	0.82 3.28 4.10
12	3.72 -0.54 3.18	1.84 5.25 7.09	0% CPI	0.00 0.00 0.00	1.84 5.25 7.09
CA(NC) -----					
16	3.84 0.01 3.85	1.94 2.25 4.19	0% CPI	0.00 0.00 0.00	1.94 2.25 4.19
17	5.81 4.38 10.19	3.45 13.31 16.76	0% CPI	0.00 0.00 0.00	3.45 13.31 16.76

17A	6.61 -0.91 5.70	3.18 9.53 12.71	55% CPI	1.66 5.00 6.66	1.52 4.53 6.05
FA-Pr (C)					
19	11.15 -3.62 7.53	6.48 17.06 23.54	50% CPI	2.96 7.80 10.76	3.52 9.26 12.78
20	8.32 -12.13 -3.81	4.04 10.24 14.28	40% CPI	1.44 3.67 5.11	2.60 6.57 9.17
21	8.56 -4.12 4.44	4.56 8.64 13.20	60% CPI	2.61 4.99 7.60	1.95 3.65 5.60
FA-Pr (NC)					
24	8.01 6.40 14.41	4.57 23.14 27.71	50% CPI	2.10 10.64 12.74	2.47 12.50 14.97
29	7.80 -1.58 6.22	4.13 3.65 7.78	0% CPI	0.00 0.00 0.00	4.13 3.65 7.78
30	11.99 -12.78 -0.79	7.70 24.36 32.06	60% CPI	4.35 13.76 18.11	3.35 10.60 13.95
FA-Pu (C)					
34			Not Applicable		
35			Not Applicable		
35a			Not Applicable		
35b			Not Applicable		
FB+FA (NC)					
36	3.19 6.38 9.57	1.45 14.97 16.42	40% CPI	0.52 5.36 5.88	0.93 9.61 10.54

APPENDIX C

STAGE III SUMMARY RESULTS

TABLE III.3.FM

MATURE DYNAMIC OPERATING COST: FLAT BENEFIT PLAN
(FUNDING COSTS)

Year	Example Inflation Protection Formulae																	
	Fund Earnings		0.0% CPI			100% CPI-2.5%			75% CPI-1.0%			60% CPI			100% CPI			
	CPI	Real Return	Real Increase	Current UFL		Service Pymts		Total	Current UFL		Service Pymts		Total	Current UFL		Service Pymts		Total
67	4.20	4.65	2.48	4.05	10.71	14.76	4.68	11.20	15.88	4.82	11.98	16.80	4.94	12.20	17.14	5.74	13.58	19.32
68	4.03	6.68	3.13	3.89	9.78	13.67	4.49	10.17	14.66	4.62	10.90	15.52	4.74	11.10	15.84	5.51	12.32	17.83
69	4.65	-4.98	1.60	3.72	7.70	11.42	4.30	7.90	12.20	4.42	8.54	12.96	4.54	8.75	13.29	5.27	9.73	15.00
70	1.48	7.61	7.31	4.00	9.27	13.27	4.62	10.06	14.68	4.76	10.16	14.92	4.88	11.11	15.99	5.67	12.80	18.47
71	4.87	4.68	5.53	3.49	7.81	11.30	4.03	8.26	12.29	4.15	9.34	13.49	4.26	9.24	13.50	4.95	10.55	15.50
72	5.10	8.70	2.51	3.26	6.99	10.25	3.77	7.43	11.20	3.88	9.25	13.13	3.98	8.29	12.27	4.62	9.49	14.11
73	9.27	-7.58	-2.19	4.03	9.25	13.28	4.65	10.47	15.12	4.79	12.70	17.49	4.91	11.40	16.31	5.70	13.36	19.06
74	12.32	-23.26	0.93	3.89	9.33	13.22	4.48	11.29	15.77	4.61	12.97	17.58	4.73	11.97	16.70	5.49	14.36	19.85
75	9.53	1.02	4.46	3.27	10.99	14.26	3.78	14.46	18.24	3.89	16.00	19.89	3.99	14.87	18.86	4.64	18.44	23.08
76	5.91	8.59	4.99	3.79	15.60	19.39	4.39	20.99	25.38	4.52	21.91	26.43	4.64	21.57	26.21	5.40	27.12	32.52
77	9.46	-1.02	-1.30	3.52	13.85	17.37	4.08	18.84	22.92	4.20	19.60	23.80	4.31	19.26	23.57	5.01	24.32	29.33
78	8.36	6.59	-1.80	3.41	12.70	16.11	3.94	18.31	22.25	4.06	18.38	22.44	4.17	18.24	22.41	4.85	23.52	28.37
79	9.80	10.27	-1.09	4.22	15.40	19.62	4.87	21.98	26.85	5.02	22.12	27.14	5.15	21.92	27.07	5.99	28.23	34.22
80	11.19	4.41	0.23	3.55	10.01	13.56	4.11	15.50	19.61	4.23	15.28	19.51	4.34	14.83	19.17	5.05	19.72	24.77
81	12.10	-16.71	-0.62	2.92	4.63	7.55	3.39	9.87	13.26	3.49	8.92	12.41	3.58	8.22	11.80	4.17	12.23	16.40
82	9.26	13.73	0.26	3.70	10.44	14.14	4.29	19.18	23.47	4.41	17.43	21.84	4.53	16.94	21.47	5.28	24.15	29.43
83	4.55	17.21	2.56	3.53	7.52	11.05	4.09	15.56	19.65	4.21	13.52	17.73	4.32	12.96	17.28	5.03	19.38	24.41
84	3.76	2.50	-0.64	3.43	4.41	7.84	3.96	10.25	14.21	4.08	8.38	12.46	4.19	8.03	12.22	4.87	12.52	17.39
85	4.35	19.95	-0.34	3.66	7.15	10.81	4.24	12.12	16.36	4.36	10.84	15.20	4.48	10.96	15.44	5.22	15.36	20.58
86	4.17	8.71	-1.59	3.15	3.08	6.23	3.65	4.55	8.20	3.76	3.69	7.45	3.86	4.19	8.05	4.50	5.60	10.10
Summary Statistics																		
MAX.	12.32	19.95	7.31	4.22	15.60	19.62	4.87	21.98	26.85	5.02	22.12	27.14	5.15	21.92	27.07	5.99	28.23	34.22
MIN.	1.48	-23.26	-2.19	2.92	3.08	6.23	3.39	4.55	8.20	3.49	3.69	7.45	3.58	4.19	8.05	4.17	5.60	10.10

Summary Statistics

TABLE 111.3.EM

NATURE DYNAMIC OPERATING COST: FLAT BENEFIT PLAN
(EXPENSING COSTS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI				100% CPI-2.5%				75% CPI-1.0%				60% CPI				100% CPI			
				Current	UFL	Service Amort.	Total	Current	UFL	Service Amort.	Total	Current	UFL	Service Amort.	Total	Current	UFL	Service Amort.	Total	Current	UFL	Service Amort.	Total
67	4.20	4.65	2.48	3.39	6.63	10.02		4.02	8.42	12.44		4.10	8.37	12.47		4.17	8.42	12.59		4.90	9.98	14.88	
68	4.03	6.68	3.13	3.25	5.54	8.79		3.86	7.18	11.04		3.93	7.08	11.01		4.01	7.10	11.11		4.70	8.47	13.17	
69	4.65	-4.98	1.60	3.12	4.32	7.44		3.71	5.76	9.47		3.77	5.62	9.39		3.85	5.61	9.46		4.51	6.75	11.26	
70	1.48	7.61	7.31	3.34	5.79	9.13		3.97	7.54	11.51		4.04	7.44	11.48		4.12	7.46	11.58		4.83	8.95	13.78	
71	4.87	4.68	5.53	2.90	6.52	9.42		3.44	8.31	11.75		3.51	8.17	11.68		3.57	8.24	11.81		4.19	9.77	13.96	
72	5.10	8.70	2.51	2.72	5.45	8.17		3.23	7.09	10.32		3.29	6.83	10.12		3.35	6.93	10.28		3.93	8.25	12.18	
73	9.27	-7.58	-2.19	3.36	5.90	9.26		3.99	7.84	11.83		4.06	7.42	11.48		4.14	7.62	11.76		4.86	9.15	14.01	
74	12.32	-23.26	0.93	3.25	8.20	11.45		3.85	11.03	14.88		3.93	10.46	14.39		4.00	10.79	14.79		4.69	13.13	17.82	
75	9.53	1.02	4.46	2.73	9.09	11.82		3.24	12.53	15.77		3.30	11.95	15.25		3.36	12.28	15.64		3.95	15.17	19.12	
76	5.91	8.59	4.99	3.14	10.33	13.47		3.74	14.29	18.03		3.81	13.65	17.46		3.89	14.03	17.92		4.57	17.44	22.01	
77	9.46	-1.02	-1.30	2.93	11.53	14.46		3.49	15.70	19.19		3.55	15.05	18.60		3.62	15.54	19.16		4.26	19.24	23.50	
78	8.36	6.59	-1.80	2.85	9.76	12.61		3.39	13.89	17.28		3.45	13.02	16.47		3.52	13.43	16.95		4.14	16.84	20.98	
79	9.80	10.27	-1.09	3.53	9.75	13.28		4.20	14.23	18.43		4.28	13.16	17.44		4.36	13.60	17.96		5.12	17.22	22.34	
80	11.19	4.41	0.23	2.96	9.25	12.21		3.52	14.10	17.62		3.58	12.76	16.34		3.65	13.21	16.86		4.29	16.96	21.25	
81	12.10	-16.71	-0.62	2.41	6.21	8.62		2.88	10.88	13.76		2.93	9.16	12.09		2.99	9.50	12.49		3.52	12.67	16.19	
82	9.26	13.73	0.26	3.07	10.03	13.10		3.66	16.58	20.24		3.73	14.86	18.59		3.80	15.12	18.92		4.47	20.14	24.61	
83	4.55	17.21	2.56	2.94	9.71	12.65		3.50	16.41	19.91		3.57	14.56	18.13		3.63	14.89	18.52		4.28	20.03	24.31	
84	3.76	2.50	-0.64	2.86	6.34	9.20		3.41	11.30	14.71		3.47	9.54	13.01		3.54	9.96	13.50		4.16	13.46	17.62	
85	4.35	19.95	-0.34	3.04	7.43	10.47		3.62	12.17	15.79		3.69	10.63	14.32		3.76	11.22	14.98		4.42	14.77	19.19	
86	4.17	8.71	-1.59	2.59	5.41	8.00		3.08	8.97	12.05		3.14	7.48	10.62		3.21	8.27	11.48		3.78	10.78	14.56	

Summary Statistics

MAX.	12.32	19.95	7.31	3.53	11.53	14.46		4.20	16.58	20.24		4.28	15.05	18.60		4.36	15.54	19.16		5.12	20.14	24.61	
MIN.	1.48	-23.26	-2.19	2.41	4.32	7.44		2.88	5.76	9.47		2.93	5.62	9.39		2.99	5.61	9.46		3.52	6.75	11.26	
MEAN	6.92	3.59	1.32	3.02	7.66	10.68		3.59	11.21	14.80		3.66	10.36	14.02		3.73	10.66	14.39		4.38	13.46	17.84	
STD	3.14	10.19	2.65	0.28	2.05	2.09		0.33	3.33	3.32		0.34	2.97	2.98		0.34	3.07	3.08		0.40	4.18	4.17	

RETROACTIVE DYNAMIC OPERATING COST: FLAT BENEFIT PLAN
(FUNDING COSTS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI						100% CPI-2.5%						75% CPI-1.0%						60% CPI						100% CPI					
				Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total
67	4.20	4.65	2.48	4.05	12.03	16.08	4.05	12.03	16.08	4.68	14.62	19.30	4.68	14.62	19.30	4.82	15.21	20.03	4.82	15.21	20.03	4.94	15.70	20.64	4.94	15.70	20.64	5.74	19.17	24.91	5.74	19.17	24.91
68	4.03	6.68	3.13	3.89	11.05	14.94	3.89	11.05	14.94	4.49	13.43	17.92	4.49	13.43	17.92	4.62	13.99	18.61	4.62	13.99	18.61	4.74	14.45	19.19	4.74	14.45	19.19	5.51	17.67	23.18	5.51	17.67	23.18
69	4.65	-4.98	1.60	3.72	8.92	12.64	3.72	8.92	12.64	4.30	11.06	15.36	4.30	11.06	15.36	4.42	11.60	16.02	4.42	11.60	16.02	4.54	12.03	16.57	4.54	12.03	16.57	5.27	14.96	20.23	5.27	14.96	20.23
70	1.48	7.61	7.31	4.00	10.37	14.37	4.00	10.37	14.37	4.62	12.91	17.53	4.62	12.91	17.53	4.76	13.52	18.28	4.76	13.52	18.28	4.88	14.04	18.92	4.88	14.04	18.92	5.67	17.48	23.15	5.67	17.48	23.15
71	4.87	4.68	5.53	3.49	8.83	12.32	3.49	8.83	12.32	4.03	10.88	14.91	4.03	10.88	14.91	4.15	11.40	15.55	4.15	11.40	15.55	4.26	11.93	16.19	4.26	11.93	16.19	4.95	14.85	19.80	4.95	14.85	19.80
72	5.10	8.70	2.51	3.26	7.91	11.17	3.26	7.91	11.17	3.77	9.79	13.56	3.77	9.79	13.56	3.88	10.24	14.12	3.88	10.24	14.12	3.98	10.71	14.69	3.98	10.71	14.69	4.62	13.36	17.98	4.62	13.36	17.98
73	9.27	-7.58	-2.19	4.03	10.15	14.18	4.03	10.15	14.18	4.65	12.75	17.40	4.65	12.75	17.40	4.79	13.26	18.05	4.79	13.26	18.05	4.91	13.79	18.70	4.91	13.79	18.70	5.70	17.18	22.88	5.70	17.18	22.88
74	12.32	-23.26	0.93	3.89	10.14	14.03	3.89	10.14	14.03	4.48	13.35	17.83	4.48	13.35	17.83	4.61	13.68	18.29	4.61	13.68	18.29	4.73	14.10	18.83	4.73	14.10	18.83	5.49	17.77	23.26	5.49	17.77	23.26
75	9.53	1.02	4.46	3.27	11.62	14.89	3.27	11.62	14.89	3.78	16.16	19.94	3.78	16.16	19.94	3.89	16.23	20.12	3.89	16.23	20.12	3.99	16.51	20.50	3.99	16.51	20.50	4.64	21.08	25.72	4.64	21.08	25.72
76	5.91	8.59	4.99	3.79	16.11	19.90	3.79	16.11	19.90	4.39	22.43	26.82	4.39	22.43	26.82	4.52	22.57	27.09	4.52	22.57	27.09	4.64	22.91	27.55	4.64	22.91	27.55	5.40	29.28	34.68	5.40	29.28	34.68
77	9.46	-1.02	-1.30	3.52	14.31	17.83	3.52	14.31	17.83	4.08	20.12	24.20	4.08	20.12	24.20	4.20	20.19	24.39	4.20	20.19	24.39	4.31	20.46	24.77	4.31	20.46	24.77	5.01	26.26	31.27	5.01	26.26	31.27
78	8.36	6.59	-1.80	3.41	13.11	16.52	3.41	13.11	16.52	3.94	19.45	23.39	3.94	19.45	23.39	4.06	19.22	23.28	4.06	19.22	23.28	4.17	19.31	23.48	4.17	19.31	23.48	4.85	25.24	30.09	4.85	25.24	30.09
79	9.80	10.27	-1.09	4.22	15.79	20.01	4.22	15.79	20.01	4.87	23.02	27.89	4.87	23.02	27.89	5.02	22.79	27.81	5.02	22.79	27.81	5.15	22.94	28.09	5.15	22.94	28.09	5.99	29.88	35.87	5.99	29.88	35.87
80	11.19	4.41	0.23	3.55	10.42	13.97	3.55	10.42	13.97	4.11	16.46	20.57	4.11	16.46	20.57	4.23	15.98	20.21	4.23	15.98	20.21	4.34	15.93	20.27	4.34	15.93	20.27	5.05	21.46	26.51	5.05	21.46	26.51
81	12.10	-16.71	-0.62	2.92	5.06	7.98	2.92	5.06	7.98	3.39	10.74	14.13	3.39	10.74	14.13	3.49	9.76	13.25	3.49	9.76	13.25	3.58	9.37	12.95	3.58	9.37	12.95	4.17	14.03	18.20	4.17	14.03	18.20
82	9.26	13.73	0.26	3.70	10.50	14.20	3.70	10.50	14.20	4.29	19.14	23.43	4.29	19.14	23.43	4.41	17.66	22.07	4.41	17.66	22.07	4.53	17.11	21.64	4.53	17.11	21.64	5.28	24.39	29.67	5.28	24.39	29.67
83	4.55	17.21	2.56	3.53	7.56	11.09	3.53	7.56	11.09	4.09	15.44	19.53	4.09	15.44	19.53	4.21	13.76	17.97	4.21	13.76	17.97	4.32	13.09	17.41	4.32	13.09	17.41	5.03	19.55	24.58	5.03	19.55	24.58
84	3.76	2.50	-0.64	3.43	4.43	7.86	3.43	4.43	7.86	3.96	10.04	14.00	3.96	10.04	14.00	4.08	8.68	12.76	4.08	8.68	12.76	4.19	8.11	12.30	4.19	8.11	12.30	4.87	12.60	17.47	4.87	12.60	17.47
85	4.35	19.95	-0.34	3.66	7.15	10.81	3.66	7.15	10.81	4.24	11.88	16.12	4.24	11.88	16.12	4.36	11.17	15.53	4.36	11.17	15.53	4.48	11.00	15.48	4.48	11.00	15.48	5.22	15.38	20.60	5.22	15.38	20.60
86	4.17	8.71	-1.59	3.15	3.06	6.21	3.15	3.06	6.21	3.65	4.20	7.85	3.65	4.20	7.85	3.76	4.12	7.88	3.76	4.12	7.88	3.86	4.18	8.04	3.86	4.18	8.04	4.50	5.54	10.04	4.50	5.54	10.04

Summary Statistics

MAX.	12.32	19.95	7.31	4.22	16.11	20.01	4.22	16.11	20.01	4.87	23.02	27.89	4.87	23.02	27.89	5.02	22.79	27.81	5.02	22.79	27.81	5.15	22.94	28.09	5.15	22.94	28.09	5.99	29.88	35.87	5.99	29.88	35.87
MIN.	1.48	-23.26	-2.19	2.92	3.06	6.21	2.92	3.06	6.21	3.39	4.20	7.85	3.39	4.20	7.85	3.49	4.12	7.88	3.49	4.12	7.88	3.58	4.18	8.04	3.58	4.18	8.04	4.17	5.54	10.04	4.17	5.54	10.04
MEAN	6.92	3.59	1.32	3.62	9.93	13.55	3.62	9.93	13.55	4.19	14.39	18.58	4.19	14.39	18.58	4.31	14.25	18.57	4.31	14.25	18.57	4.43	14.38	18.81	4.43	14.38	18.81	5.15	18.86	24.00	5.15	18.86	24.00
STD	3.14	10.19	2.65	0.33	3.41	3.61	0.33	3.41	3.61	0.37	4.60	4.77	0.37	4.60	4.77	0.38	4.57	4.77	0.38	4.57	4.77	0.39	4.64	4.85	0.39	4.64	4.85	0.46	5.87	6.09	0.46	5.87	6.09

TABLE III.3.ER

RETROACTIVE DYNAMIC OPERATING COST: FLAT BENEFIT PLAN
(EXPENSING COSTS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI			100% CPI 1-2.5%			75% CPI 1-1.0%			60% CPI			100% CPI		
				Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total
67	4.20	4.65	2.48	3.39	8.30	11.69	4.02	12.02	16.04	4.10	12.44	16.54	4.17	12.89	17.06	4.90	17.03	21.93
68	4.03	6.68	3.13	3.25	7.08	10.33	3.86	10.46	14.32	3.93	10.84	14.77	4.01	11.23	15.24	4.70	14.98	19.68
69	4.65	-4.98	1.60	3.12	5.75	8.87	3.71	8.76	12.47	3.77	9.10	12.87	3.85	9.46	13.31	4.51	12.80	17.31
70	1.48	7.61	7.31	3.34	7.03	10.37	3.97	10.10	14.07	4.04	10.44	14.48	4.12	10.80	14.92	4.83	14.19	19.02
71	4.87	4.68	5.53	2.90	7.63	10.53	3.44	10.53	13.97	3.51	10.82	14.33	3.57	11.21	14.78	4.19	14.42	18.61
72	5.10	8.70	2.51	2.72	6.41	9.13	3.23	8.97	12.20	3.29	9.20	12.49	3.35	9.52	12.87	3.93	12.30	16.23
73	9.27	-7.58	-2.19	3.36	6.79	10.15	3.99	9.53	13.52	4.06	9.73	13.79	4.14	10.02	14.16	4.86	12.90	17.76
74	12.32	-23.26	0.93	3.25	8.97	12.22	3.85	12.45	16.30	3.93	12.59	16.52	4.00	12.88	16.88	4.69	16.39	21.08
75	9.53	1.02	4.46	2.73	9.66	12.39	3.24	13.58	16.82	3.30	13.61	16.91	3.36	13.82	17.18	3.95	17.56	21.51
76	5.91	8.59	4.99	3.14	10.79	13.93	3.74	15.10	18.84	3.81	15.08	18.89	3.89	15.27	19.16	4.57	19.36	23.93
77	9.46	-1.02	-1.30	2.93	11.92	14.85	3.49	16.33	19.82	3.55	16.36	19.91	3.62	16.58	20.20	4.26	20.85	25.11
78	8.36	6.59	-1.80	2.85	10.10	12.95	3.39	14.38	17.77	3.45	14.25	17.70	3.52	14.35	17.87	4.14	18.24	22.38
79	9.80	10.27	-1.09	3.53	10.05	13.58	4.20	14.59	18.79	4.28	14.37	18.65	4.36	14.43	18.79	5.12	18.47	23.59
80	11.19	4.41	0.23	2.96	9.51	12.47	3.52	14.33	17.85	3.58	13.96	17.54	3.65	13.94	17.59	4.29	18.04	22.33
81	12.10	-16.71	-0.62	2.41	6.42	8.83	2.88	10.96	13.84	2.93	10.31	13.24	2.99	10.08	13.07	3.52	13.53	17.05
82	9.26	13.73	0.26	3.07	10.20	13.27	3.66	16.67	20.33	3.73	15.82	19.55	3.80	15.60	19.40	4.47	20.85	25.32
83	4.55	17.21	2.56	2.94	9.68	12.62	3.50	16.06	19.56	3.57	15.11	18.68	3.63	14.85	18.48	4.28	19.90	24.18
84	3.76	2.50	-0.64	2.86	6.30	9.16	3.41	10.91	14.32	3.47	10.14	13.61	3.54	9.89	13.43	4.16	13.28	17.44
85	4.35	19.95	-0.34	3.04	7.39	10.43	3.62	11.76	15.38	3.69	11.24	14.93	3.76	11.14	14.90	4.42	14.58	19.00
86	4.17	8.71	-1.59	2.59	5.36	7.95	3.08	8.51	11.59	3.14	8.22	11.36	3.21	8.19	11.40	3.78	10.57	14.35

Summary Statistics

MAX. 12.32 19.95

MIN. 1.48 -23.26

MEAN 6.92 3.59

STD 3.14 10.19

MAX.	12.32	19.95	7.31	4.20	16.67	20.33	4.28	16.36	19.91	4.36	16.58	20.20	5.12	20.85	25.32
MIN.	1.48	-23.26	-2.19	2.88	8.51	11.59	2.93	8.22	11.36	2.99	8.19	11.40	3.52	10.57	14.35
MEAN	6.92	3.59	1.32	3.59	12.30	15.89	3.66	12.18	15.84	3.73	12.31	16.03	4.38	16.01	20.39
STD	3.14	10.19	2.65	0.33	2.59	2.65	0.34	2.42	2.51	0.34	2.38	2.49	0.40	2.98	3.11

TABLE 111.12.FM.NET

**MATURE DYNAMIC OPERATING COST: CAREER AVERAGE PLAN
(FUNDING COSTS - NET OF EMPLOYEE CONTRIBUTIONS)**

Example Inflation Protection Formulae																		
Year	CPI	Fund Return	Earnings Real	0.0% CPI			100% CPI-2.5%			75% CPI-1.0%			60% CPI			100% CPI		
				Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total
67	4.20	4.65	2.48	1.64	0.27	1.91	2.15	0.31	2.46	2.28	0.32	2.60	2.39	0.32	2.71	3.12	0.37	3.49
68	4.03	6.68	3.13	1.66	0.11	1.77	2.22	0.10	2.32	2.34	0.10	2.44	2.45	0.11	2.56	3.23	0.11	3.34
69	4.65	-4.98	1.60	1.66	-0.27	1.39	2.26	-0.37	1.89	2.39	-0.36	2.03	2.51	-0.37	2.14	3.32	-0.46	2.86
70	1.48	7.61	7.31	1.65	0.22	1.87	2.25	0.20	2.45	2.37	0.22	2.59	2.48	0.23	2.71	3.29	0.25	3.54
71	4.87	4.68	5.53	1.65	0.20	1.85	2.20	0.02	2.22	2.33	0.02	2.35	2.46	0.06	2.52	3.27	-0.08	3.19
72	5.10	8.70	2.51	1.57	0.20	1.77	2.14	0.07	2.21	2.28	0.05	2.33	2.40	0.09	2.49	3.14	-0.02	3.12
73	9.27	-7.58	-2.19	1.57	0.08	1.65	2.14	0.01	2.15	2.26	-0.04	2.22	2.38	-0.02	2.36	3.12	-0.11	3.01
74	12.32	-23.26	0.93	1.69	0.51	2.20	2.29	0.90	3.19	2.41	0.79	3.20	2.52	0.77	3.29	3.33	1.03	4.36
75	9.53	1.02	4.46	1.77	1.95	3.72	2.36	3.23	5.59	2.49	3.03	5.52	2.62	2.97	5.59	3.42	3.98	7.40
76	5.91	8.59	4.99	1.80	2.32	4.12	2.37	4.09	6.46	2.50	3.84	6.34	2.62	3.72	6.34	3.41	5.14	8.55
77	9.46	-1.02	-1.30	1.88	2.11	3.99	2.44	3.82	6.26	2.58	3.56	6.14	2.72	3.44	6.16	3.49	4.80	8.29
78	8.36	6.59	-1.80	1.90	2.04	3.94	2.48	4.09	6.57	2.62	3.73	6.35	2.74	3.56	6.30	3.52	5.13	8.65
79	9.80	10.27	-1.09	1.92	2.26	4.18	2.55	4.41	6.96	2.68	4.01	6.69	2.80	3.83	6.63	3.59	5.52	9.11
80	11.19	4.41	0.23	1.92	0.16	2.08	2.53	1.89	4.42	2.66	1.39	4.05	2.78	1.12	3.90	3.57	2.31	5.88
81	12.10	-16.71	-0.62	1.90	-1.82	0.08	2.49	-0.14	2.35	2.62	-0.84	1.78	2.75	-1.23	1.52	3.52	-0.29	3.23
82	9.26	13.73	0.26	1.99	-1.25	0.74	2.58	1.51	4.09	2.73	0.50	3.23	2.85	-0.03	2.82	3.61	1.77	5.38
83	4.55	17.21	2.56	1.91	-1.82	0.09	2.51	0.90	3.41	2.63	-0.19	2.44	2.74	-0.76	1.98	3.48	1.01	4.49
84	3.76	2.50	-0.64	1.85	-2.58	-0.73	2.43	-0.70	1.73	2.55	-1.61	0.94	2.67	-2.10	0.57	3.37	-1.02	2.35
85	4.35	19.95	-0.34	1.94	-1.34	0.60	2.55	0.04	2.59	2.68	-0.59	2.09	2.80	-0.93	1.87	3.50	-0.07	3.43
86	4.17	8.71	-1.59	2.00	-2.61	0.61	2.61	-2.72	-0.11	2.74	-3.02	-0.28	2.85	-3.21	-0.16	3.56	-3.57	-0.01

Summary Statistics

[illegible]

TABLE 111.12.FM.TOT

MATURE DYNAMIC OPERATING COST: CAREER AVERAGE PLAN
(FUNDING COSTS - INCLUDING EMPLOYEE CONTRIBUTIONS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI				100% CPI-2.5%				75% CPI-1.0%				60% CPI				100% CPI				
				Current	UFL	Total	Service Pymts	Current	UFL	Total	Service Pymts	Current	UFL	Total	Service Pymts	Current	UFL	Total	Service Pymts	Current	UFL	Total	Service Pymts	
67	4.20	4.65	2.48	1.64	2.14	3.78	2.15	2.17	4.32	2.28	2.19	4.47	2.39	2.19	4.58	3.12	2.24	5.36	3.12	2.24	5.36	3.12	2.24	5.36
68	4.03	6.68	3.13	1.66	1.97	3.63	2.22	1.96	4.18	2.34	1.96	4.30	2.45	1.97	4.42	3.23	1.97	5.20	3.23	1.97	5.20	3.23	1.97	5.20
69	4.65	-4.98	1.60	1.66	1.58	3.24	2.26	1.48	3.74	2.39	1.48	3.87	2.51	1.48	3.99	3.32	1.39	4.71	3.32	1.39	4.71	3.32	1.39	4.71
70	1.48	7.61	7.31	1.65	2.04	3.69	2.25	2.02	4.27	2.37	2.04	4.41	2.48	2.06	4.54	3.29	2.08	5.37	3.29	2.08	5.37	3.29	2.08	5.37
71	4.87	4.68	5.53	1.65	1.97	3.62	2.20	1.79	3.99	2.33	1.78	4.11	2.46	1.83	4.29	3.27	1.69	4.96	3.27	1.69	4.96	3.27	1.69	4.96
72	5.10	8.70	2.51	1.57	1.89	3.46	2.14	1.76	3.90	2.28	1.74	4.02	2.40	1.78	4.18	3.14	1.67	4.81	3.14	1.67	4.81	3.14	1.67	4.81
73	9.27	-7.58	-2.19	1.57	1.75	3.32	2.14	1.67	3.81	2.26	1.63	3.89	2.38	1.64	4.02	3.12	1.55	4.67	3.12	1.55	4.67	3.12	1.55	4.67
74	12.32	-23.26	0.93	1.69	2.17	3.86	2.29	2.57	4.86	2.41	2.46	4.87	2.52	2.44	4.96	3.33	2.69	6.02	3.33	2.69	6.02	3.33	2.69	6.02
75	9.53	1.02	4.46	1.77	3.52	5.29	2.36	4.80	7.16	2.49	4.59	7.08	2.62	4.53	7.15	3.42	5.54	8.96	3.42	5.54	8.96	3.42	5.54	8.96
76	5.91	8.59	4.99	1.80	3.76	5.56	2.37	5.54	7.91	2.50	5.28	7.78	2.62	5.17	7.79	3.41	6.59	10.00	3.41	6.59	10.00	3.41	6.59	10.00
77	9.46	-1.02	-1.30	1.88	3.49	5.37	2.44	5.19	7.63	2.58	4.93	7.51	2.72	4.82	7.54	3.49	6.18	9.67	3.49	6.18	9.67	3.49	6.18	9.67
78	8.36	6.59	-1.80	1.90	3.39	5.29	2.48	5.44	7.92	2.62	5.07	7.69	2.74	4.90	7.64	3.52	6.47	9.99	3.52	6.47	9.99	3.52	6.47	9.99
79	9.80	10.27	-1.09	1.92	3.58	5.50	2.55	5.73	8.28	2.68	5.33	8.01	2.80	5.15	7.95	3.59	6.84	10.43	3.59	6.84	10.43	3.59	6.84	10.43
80	11.19	4.41	0.23	1.92	1.45	3.37	2.53	3.18	5.71	2.66	2.68	5.34	2.78	2.41	5.19	3.57	3.60	7.17	3.57	3.60	7.17	3.57	3.60	7.17
81	12.10	-16.71	-0.62	1.90	-0.61	1.29	2.49	1.08	3.57	2.62	0.38	3.00	2.75	-0.02	2.73	3.52	0.92	4.44	3.52	0.92	4.44	3.52	0.92	4.44
82	9.26	13.73	0.26	1.99	-0.08	1.91	2.58	2.68	5.26	2.73	1.67	4.40	2.85	1.14	3.99	3.61	2.95	6.56	3.61	2.95	6.56	3.61	2.95	6.56
83	4.55	17.21	2.56	1.91	-0.70	1.21	2.51	2.02	4.53	2.63	0.93	3.56	2.74	0.36	3.10	3.48	2.13	5.61	3.48	2.13	5.61	3.48	2.13	5.61
84	3.76	2.50	-0.64	1.85	-1.51	0.34	2.43	0.37	2.80	2.55	-0.54	2.01	2.67	-1.03	1.64	3.37	0.05	3.42	3.37	0.05	3.42	3.37	0.05	3.42
85	4.35	19.95	-0.34	1.94	-0.23	1.71	2.55	1.15	3.70	2.68	0.52	3.20	2.80	0.17	2.97	3.50	1.04	4.54	3.50	1.04	4.54	3.50	1.04	4.54
86	4.17	8.71	-1.59	2.00	-1.50	0.50	2.61	-1.61	1.00	2.74	-1.91	0.83	2.85	-2.09	0.76	3.56	-2.46	1.10	3.56	-2.46	1.10	3.56	-2.46	1.10

Summary Statistics

MAX.	12.32	19.95	7.31	2.00	3.76	5.56	2.61	5.73	8.28	2.74	5.33	8.01	2.85	5.17	7.95	3.61	6.84	10.43	3.61	6.84	10.43	3.61	6.84	10.43
MIN.	1.48	-23.26	-2.19	1.57	-1.51	0.34	2.14	-1.61	1.00	2.26	-1.91	0.83	2.38	-2.09	0.76	3.12	-2.46	1.10	3.12	-2.46	1.10	3.12	-2.46	1.10
MEAN	6.92	3.59	1.32	1.79	1.50	3.30	2.38	2.55	4.93	2.51	2.21	4.72	2.63	2.05	4.67	3.39	2.76	6.15	3.39	2.76	6.15	3.39	2.76	6.15
STD	3.14	10.19	2.65	0.14	1.67	1.62	0.16	1.87	1.89	0.16	1.93	1.93	0.16	2.00	1.99	0.16	2.38	2.43	0.16	2.38	2.43	0.16	2.38	2.43

TABLE 111.12.EM.NET

MATURE DYNAMIC OPERATING COST: CAREER AVERAGE PLAN
(EXPENSING COSTS – NET OF EMPLOYEE CONTRIBUTIONS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI			100% CPI-2.5%			7.5% CPI-1.0%			60% CPI			100% CPI		
				Current	UFL	Service Amort., Total	Current	UFL	Service Amort., Total	Current	UFL	Service Amort., Total	Current	UFL	Service Amort., Total	Current	UFL	Service Amort., Total
67	4.20	4.65	2.48	1.60	0.16	1.76	2.27	0.69	2.96	2.36	0.65	3.01	2.46	0.62	3.08	3.43	1.35	4.78
68	4.03	6.68	3.13	1.64	0.09	1.73	2.34	0.58	2.92	2.43	0.54	2.97	2.53	0.52	3.05	3.46	1.24	4.70
69	4.65	-4.98	1.60	1.72	-0.08	1.64	2.44	0.35	2.79	2.53	0.31	2.84	2.62	0.29	2.91	3.54	0.96	4.50
70	1.48	7.61	7.31	1.74	0.46	2.20	2.44	0.96	3.40	2.53	0.94	3.47	2.64	0.93	3.57	3.53	1.74	5.27
71	4.87	4.68	5.53	1.73	0.45	2.18	2.41	0.85	3.26	2.51	0.81	3.32	2.59	0.84	3.43	3.45	1.55	5.00
72	5.10	8.70	2.51	1.64	0.41	2.05	2.31	0.82	3.13	2.39	0.78	3.17	2.48	0.79	3.27	3.30	1.51	4.81
73	9.27	-7.58	-2.19	1.62	0.28	1.90	2.28	0.70	2.98	2.37	0.65	3.02	2.45	0.66	3.11	3.26	1.40	4.66
74	12.32	-23.26	0.93	1.70	1.01	2.71	2.39	1.76	4.15	2.47	1.69	4.16	2.56	1.69	4.25	3.37	2.78	6.15
75	9.53	1.02	4.46	1.74	2.15	3.89	2.40	3.36	5.76	2.47	3.28	5.75	2.56	3.27	5.83	3.35	4.83	8.18
76	5.91	8.59	4.99	1.72	2.05	3.77	2.33	3.34	5.67	2.41	3.22	5.63	2.48	3.20	5.68	3.22	4.84	8.06
77	9.46	-1.02	-1.30	1.75	1.70	3.45	2.33	2.83	5.16	2.40	2.72	5.12	2.48	2.68	5.16	3.19	4.21	7.40
78	8.36	6.59	-1.80	1.76	1.48	3.24	2.33	2.69	5.02	2.40	2.53	4.93	2.48	2.46	4.94	3.17	4.07	7.24
79	9.80	10.27	-1.09	1.81	1.53	3.34	2.37	2.86	5.23	2.44	2.65	5.09	2.51	2.57	5.08	3.20	4.36	7.56
80	11.19	4.41	0.23	1.80	1.32	3.12	2.32	2.77	5.09	2.39	2.50	4.89	2.46	2.38	4.84	3.13	4.21	7.34
81	12.10	-16.71	-0.62	1.76	0.61	2.37	2.25	2.18	4.43	2.32	1.79	4.11	2.39	1.59	3.98	3.03	3.36	6.39
82	9.26	13.73	0.26	1.78	1.64	3.42	2.25	3.90	6.15	2.32	3.37	5.69	2.38	3.14	5.52	3.02	5.47	8.49
83	4.55	17.21	2.56	1.70	0.96	2.66	2.16	3.10	5.26	2.22	2.52	4.74	2.28	2.25	4.53	2.89	4.47	7.36
84	3.76	2.50	-0.64	1.65	0.20	1.85	2.10	1.71	3.81	2.16	1.25	3.41	2.22	1.02	3.24	2.82	2.75	5.57
85	4.35	19.95	-0.34	1.70	1.20	2.90	2.16	2.59	4.75	2.23	2.27	4.50	2.29	2.12	4.41	2.90	4.03	6.93
86	4.17	8.71	-1.59	1.72	0.98	2.70	2.19	1.79	3.98	2.25	1.63	3.88	2.32	1.54	3.86	2.94	3.10	6.04

Summary Statistics

MAX.	12.32	19.95	7.31	1.81	2.15	3.89	2.44	3.90	6.15	2.53	3.37	5.75	2.64	3.27	5.83	3.54	5.47	8.49
MIN.	1.48	-23.26	-2.19	1.60	-0.08	1.64	2.10	0.35	2.79	2.16	0.31	2.84	2.22	0.29	2.91	2.82	0.96	4.50
MEAN	6.92	3.59	1.32	1.71	0.93	2.64	2.30	1.99	4.30	2.38	1.81	4.19	2.46	1.73	4.19	3.21	3.11	6.32
STD	3.14	10.19	2.65	0.06	0.66	0.70	0.09	1.08	1.06	0.10	0.99	0.97	0.11	0.96	0.94	0.22	1.42	1.31

TABLE III.30.FM

IMMATURE DYNAMIC OPERATING COST: FINAL AVERAGE PLAN
(FUNDING COSTS)

Example Inflation Protection Formulae

Year	CPI		Fund		Earnings		0.0% CPI			100% CPI-2.5%			75% CPI-1.0%			60% CPI			100% CPI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	CPI	Real Return	Real	Increase	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total	Current	UFL	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
																							Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts	Service	Pymts

Summary Statistics

MAX.	12.32	19.95	7.31	13.88	10.86	24.53	18.00	20.52	38.25	18.67	20.36	38.74	19.26	18.72	37.69	23.20	27.05	49.90
MIN.	1.48	-23.26	-2.19	13.18	-22.92	-9.04	16.31	-27.42	-10.52	16.91	-29.81	-12.30	17.46	-30.49	-12.42	21.06	-37.03	-15.28
MEAN	6.92	3.59	1.32	13.60	-4.77	8.84	17.18	-1.51	15.67	17.84	-2.64	15.20	18.37	-3.88	14.49	22.14	-2.25	19.89
STD.	3.14	10.19	2.65	0.19	9.44	9.43	0.47	12.32	12.58	0.46	13.29	13.55	0.50	12.98	13.22	0.60	16.40	16.73

TABLE 111.30.EM

MATURE DYNAMIC OPERATING COST: FINAL AVERAGE PLAN
(EXPENSING COSTS)

Example Inflation Protection Formulae

Year	CPI	Fund Real Return	Earnings Real Increase	0.0% CPI				100% CPI-2.5%				75% CPI-1.0%				60% CPI				100% CPI			
				Current	UFL	Total	UFL	Current	UFL	Total	UFL	Current	UFL	Total	UFL	Current	UFL	Total	UFL	Current	UFL	Total	UFL
67	4.20	4.65	2.48	12.02	-10.62	1.40	15.46	-11.27	4.19	15.82	-12.25	3.57	16.19	-13.03	3.16	19.76	-15.09	4.67	19.76	-15.09	4.67		
68	4.03	6.68	3.13	12.06	-10.22	1.84	15.67	-11.01	4.66	16.03	-11.98	4.05	16.41	-12.71	3.70	20.02	-14.75	5.27	20.02	-14.75	5.27		
69	4.65	-4.98	1.60	12.20	-10.33	1.87	15.95	-11.27	4.68	16.32	-12.27	4.05	16.71	-12.95	3.76	20.38	-15.10	5.28	20.38	-15.10	5.28		
70	1.48	7.61	7.31	12.18	-6.83	5.35	15.98	-7.00	8.98	16.35	-7.86	8.49	16.74	-8.38	8.36	20.42	-9.55	10.87	20.42	-9.55	10.87		
71	4.87	4.68	5.53	12.27	-6.23	6.04	15.97	-6.64	9.33	16.34	-7.57	8.77	16.72	-7.94	8.78	20.40	-9.27	11.13	20.40	-9.27	11.13		
72	5.10	8.70	2.51	12.31	-5.26	7.05	16.36	-5.41	10.95	16.74	-6.44	10.30	17.13	-6.63	10.50	20.89	-7.64	13.25	20.89	-7.64	13.25		
73	9.27	-7.58	-2.19	12.44	-6.02	6.42	16.79	-6.22	10.57	17.18	-7.41	9.77	17.58	-7.56	10.02	21.44	-8.72	12.72	21.44	-8.72	12.72		
74	12.32	-23.26	0.93	12.36	-3.43	8.93	16.28	-2.27	14.01	16.65	-3.46	13.19	17.04	-3.65	13.39	20.78	-3.56	17.22	20.78	-3.56	17.22		
75	9.53	1.02	4.46	12.33	3.36	15.69	16.13	7.17	23.30	16.50	6.04	22.54	16.89	6.06	22.95	20.59	8.87	29.46	20.59	8.87	29.46		
76	5.91	8.59	4.99	12.37	4.63	17.00	17.00	9.20	26.20	17.39	7.80	25.19	17.80	8.01	25.81	21.69	11.49	33.18	21.69	11.49	33.18		
77	9.46	-1.02	-1.30	12.31	4.26	16.57	17.00	8.47	25.47	17.39	6.99	24.38	17.80	7.32	25.12	21.70	10.50	32.20	21.70	10.50	32.20		
78	8.36	6.59	-1.80	12.40	3.74	16.14	16.72	8.42	25.14	17.11	6.66	23.77	17.51	6.93	24.44	21.34	10.29	31.63	21.34	10.29	31.63		
79	9.80	10.27	-1.09	12.30	1.19	13.49	16.33	5.50	21.83	16.71	3.32	20.03	17.10	3.60	20.70	20.84	6.26	27.10	20.84	6.26	27.10		
80	11.19	4.41	0.23	12.33	-3.30	9.03	16.06	0.30	16.36	16.43	-2.44	13.99	16.82	-2.29	14.53	20.49	-0.89	19.60	20.49	-0.89	19.60		
81	12.10	-16.71	-0.62	12.13	-5.78	6.35	16.04	-1.98	14.06	16.41	-5.15	11.26	16.79	-5.26	11.53	20.45	-4.20	16.25	20.45	-4.20	16.25		
82	9.26	13.73	0.26	12.13	0.30	12.43	16.28	7.58	23.86	16.65	4.30	20.95	17.04	3.96	21.00	20.76	8.29	29.05	20.76	8.29	29.05		
83	4.55	17.21	2.56	12.13	-1.86	10.27	16.35	4.93	21.28	16.72	1.33	18.05	17.12	0.95	18.07	20.85	4.49	25.34	20.85	4.49	25.34		
84	3.76	2.50	-0.64	11.99	-4.60	7.39	15.99	-0.38	15.61	16.36	-3.67	12.69	16.74	-3.78	12.96	20.39	-2.55	17.84	20.39	-2.55	17.84		
85	4.35	19.95	-0.34	12.12	-4.14	7.98	15.96	-0.07	14.99	16.33	-3.92	12.41	16.71	-3.78	12.93	20.35	-3.29	17.06	20.35	-3.29	17.06		
86	4.17	8.71	-1.59	12.20	-10.06	2.14	15.58	-10.84	4.74	15.94	-13.60	2.34	16.31	-13.16	3.15	19.86	-16.48	3.38	19.86	-16.48	3.38		

Summary Statistics

MAX.	12.32	19.95	7.31	12.44	4.63	17.00	17.00	9.20	26.20	17.39	7.80	25.19	17.80	8.01	25.81	21.70	11.49	33.18	21.70	11.49	33.18		
MIN.	1.48	-23.26	-2.19	11.99	-10.62	1.40	15.46	-11.27	4.19	15.82	-13.60	2.34	16.19	-13.16	3.15	19.76	-16.48	3.38	19.76	-16.48	3.38		
MEAN	6.92	3.59	1.32	12.23	-3.56	8.67	16.19	-1.18	15.01	16.57	-3.08	13.49	16.96	-3.21	13.74	20.67	-2.55	18.13	20.67	-2.55	18.13		
STD	3.14	10.19	2.65	0.13	4.93	4.99	0.42	7.16	7.47	0.43	6.89	7.22	0.44	7.09	7.43	0.53	9.30	9.69	0.53	9.30	9.69		

TABLE III.M.(100%-2.5%).INCR.

INCREMENTAL MATURE DYNAMIC ANNUAL COST OF (100%CPI-2.5%) INFLATION PROTECTION

Year	CPI	Fund Real	Earnings Real	FLAT BENEFIT		CAREER AVERAGE		FINAL AVERAGE	
		Return	Increase	FUNDING	EXPENSING	FUNDING	EXPENSING	FUNDING	EXPENSING
67	4.20	4.65	2.48	1.12	2.42	0.55	1.20	1.82	2.79
68	4.03	6.68	3.13	0.99	2.25	0.55	1.19	1.66	2.82
69	4.65	-4.98	1.60	0.78	2.03	0.50	1.15	1.39	2.81
70	1.48	7.61	7.31	1.41	2.38	0.58	1.20	2.21	3.63
71	4.87	4.68	5.53	0.99	2.33	0.37	1.08	1.52	3.29
72	5.10	8.70	2.51	0.95	2.15	0.44	1.08	2.37	3.90
73	9.27	-7.58	-2.19	1.84	2.57	0.50	1.08	2.68	4.15
74	12.32	-23.26	0.93	2.55	3.43	0.99	1.44	4.54	5.08
75	9.53	1.02	4.46	3.98	3.95	1.87	1.87	8.63	7.61
76	5.91	8.59	4.99	5.99	4.56	2.34	1.90	12.32	9.20
77	9.46	-1.02	-1.30	5.55	4.73	2.27	1.71	12.62	8.90
78	8.36	6.59	-1.80	6.14	4.67	2.63	1.78	13.79	9.00
79	9.80	10.27	-1.09	7.23	5.15	2.78	1.89	12.88	8.34
80	11.19	4.41	0.23	6.05	5.41	2.34	1.97	9.86	7.33
81	12.10	-16.71	-0.62	5.71	5.14	2.27	2.06	8.44	7.71
82	9.26	13.73	0.26	9.33	7.14	3.35	2.73	13.29	11.43
83	4.55	17.21	2.56	8.60	7.26	3.32	2.60	12.99	11.01
84	3.76	2.50	-0.64	6.37	5.51	2.46	1.96	9.15	8.22
85	4.35	19.95	-0.34	5.55	5.32	1.99	1.85	6.00	7.01
86	4.17	8.71	-1.59	1.97	4.05	0.50	1.28	-1.48	2.60
MAX.	12.32	19.95	7.31	9.33	7.26	3.35	2.73	13.79	11.43
MIN.	1.48	-23.26	-2.19	0.78	2.03	0.37	1.08	-1.48	2.60
MEAN	6.92	3.59	1.32	4.15	4.12	1.63	1.65	6.83	6.34
Percentage Increase in variability over no inflation protection				41	59	27	51	33	50

TABLE III.M.(75%-1.0%).INCR.

INCREMENTAL MATURE DYNAMIC ANNUAL COST OF (75%CPI-1.0%) INFLATION PROTECTION

Year	CPI	Fund	Earnings	FLAT BENEFIT		CAREER AVERAGE		FINAL AVERAGE	
		Real	Real	FUNDING	EXPENSING	FUNDING	EXPENSING	FUNDING	EXPENSING
		Return	Increase						
====	====	=====	=====	=====	=====	=====	=====	=====	=====
67	4.20	4.65	2.48	2.04	2.45	0.69	1.25	2.12	2.17
68	4.03	6.68	3.13	1.85	2.22	0.67	1.24	2.43	2.21
69	4.65	-4.98	1.60	1.54	1.95	0.64	1.20	2.30	2.18
70	1.48	7.61	7.31	1.65	2.35	0.72	1.27	2.56	3.14
71	4.87	4.68	5.53	2.19	2.26	0.50	1.14	3.49	2.73
72	5.10	8.70	2.51	2.88	1.95	0.56	1.12	5.03	3.25
73	9.27	-7.58	-2.19	4.21	2.22	0.57	1.12	2.75	3.35
74	12.32	-23.26	0.93	4.36	2.94	1.00	1.45	4.15	4.26
75	9.53	1.02	4.46	5.63	3.43	1.80	1.86	12.33	6.85
76	5.91	8.59	4.99	7.04	3.99	2.22	1.86	14.59	8.19
77	9.46	-1.02	-1.30	6.43	4.14	2.15	1.67	12.30	7.81
78	8.36	6.59	-1.80	6.33	3.86	2.41	1.69	14.28	7.63
79	9.80	10.27	-1.09	7.52	4.16	2.51	1.75	13.10	6.54
80	11.19	4.41	0.23	5.95	4.13	1.97	1.77	7.32	4.96
81	12.10	-16.71	-0.62	4.86	3.47	1.70	1.74	4.53	4.91
82	9.26	13.73	0.26	7.70	5.49	2.49	2.27	9.58	8.52
83	4.55	17.21	2.56	6.68	5.48	2.35	2.08	8.85	7.78
84	3.76	2.50	-0.64	4.62	3.81	1.67	1.56	5.55	5.30
85	4.35	19.95	-0.34	4.39	3.85	1.49	1.60	3.20	4.43
86	4.17	8.71	-1.59	1.22	2.62	0.33	1.18	-3.26	0.20
MAX.	12.32	19.95	7.31	7.70	5.49	2.51	2.27	14.59	8.52
MIN.	1.48	-23.26	-2.19	1.22	1.95	0.33	1.12	-3.26	0.20
MEAN	6.92	3.59	1.32	4.45	3.34	1.42	1.54	6.36	4.82
Percentage Increase in variability over no inflation protection									
				42	43	27	39	44	45

Due to different rounding procedures, some numbers in this table are marginally different than the corresponding number in Table 8.4 in the Task Force Report.

TABLE III. M. 60%. INCR.

INCREMENTAL MATURE DYNAMIC ANNUAL COST OF 60% INFLATION PROTECTION

Year	CPI	Fund Real	Earnings Real	FLAT BENEFIT		CAREER AVERAGE		FINAL AVERAGE	
		Return	Increase	FUNDING	EXPENSING	FUNDING	EXPENSING	FUNDING	EXPENSING
67	4.20	4.65	2.48	2.38	2.57	0.80	1.32	2.40	1.76
68	4.03	6.68	3.13	2.17	2.32	0.79	1.32	2.23	1.86
69	4.65	-4.98	1.60	1.87	2.02	0.75	1.27	1.93	1.89
70	1.48	7.61	7.31	2.72	2.45	0.84	1.37	3.03	3.01
71	4.87	4.68	5.53	2.20	2.39	0.67	1.25	2.38	2.74
72	5.10	8.70	2.51	2.02	2.11	0.72	1.22	3.33	3.45
73	9.27	-7.58	-2.19	3.03	2.50	0.71	1.21	3.43	3.60
74	12.32	-23.26	0.93	3.48	3.34	1.09	1.54	4.92	4.46
75	9.53	1.02	4.46	4.60	3.82	1.87	1.94	8.85	7.26
76	5.91	8.59	4.99	6.82	4.45	2.22	1.91	12.46	8.81
77	9.46	-1.02	-1.30	6.20	4.70	2.17	1.71	12.79	8.55
78	8.36	6.59	-1.80	6.30	4.34	2.36	1.70	13.23	8.30
79	9.80	10.27	-1.09	7.45	4.68	2.45	1.74	11.70	7.21
80	11.19	4.41	0.23	5.61	4.65	1.82	1.72	7.53	5.50
81	12.10	-16.71	-0.62	4.25	3.87	1.44	1.61	4.46	5.18
82	9.26	13.73	0.26	7.33	5.82	2.08	2.10	8.00	8.57
83	4.55	17.21	2.56	6.23	5.87	1.89	1.87	7.17	7.80
84	3.76	2.50	-0.64	4.38	4.30	1.30	1.39	4.27	5.57
85	4.35	19.95	-0.34	4.63	4.51	1.27	1.51	2.38	4.95
86	4.17	8.71	-1.59	1.82	3.48	0.25	1.16	-3.38	1.01
MAX.	12.32	19.95	7.31	7.45	5.87	2.45	2.10	13.23	8.81
MIN.	1.48	-23.26	-2.19	1.82	2.02	0.25	1.16	-3.38	1.01
MEAN	6.92	3.59	1.32	4.27	3.71	1.37	1.54	5.66	5.07
Percentage Increase in variability over no inflation protection				39	47	30	34	40	49

TABLE III.M.100%.INCR.

INCREMENTAL MATURE DYNAMIC ANNUAL COST OF 100% INFLATION PROTECTION

Year	CPI	Fund Real	Earnings Real	FLAT BENEFIT		CAREER AVERAGE		FINAL AVERAGE	
		Return	Increase	FUNDING	EXPENSING	FUNDING	EXPENSING	FUNDING	EXPENSING
67	4.20	4.65	2.48	4.56	4.86	1.58	3.02	4.22	3.27
68	4.03	6.68	3.13	4.16	4.38	1.57	2.97	3.89	3.43
69	4.65	-4.98	1.60	3.58	3.82	1.47	2.86	3.21	3.41
70	1.48	7.61	7.31	5.20	4.65	1.67	3.07	5.29	5.52
71	4.87	4.68	5.53	4.20	4.54	1.34	2.82	4.12	5.09
72	5.10	8.70	2.51	3.86	4.01	1.35	2.76	5.67	6.20
73	9.27	-7.58	-2.19	5.78	4.75	1.36	2.76	5.65	6.30
74	12.32	-23.26	0.93	6.63	6.37	2.16	3.44	8.94	8.29
75	9.53	1.02	4.46	8.82	7.30	3.68	4.29	16.86	13.77
76	5.91	8.59	4.99	13.13	8.54	4.43	4.29	23.37	16.18
77	9.46	-1.02	-1.30	11.96	9.04	4.30	3.95	23.99	15.63
78	8.36	6.59	-1.80	12.26	8.37	4.71	4.00	25.44	15.49
79	9.80	10.27	-1.09	14.60	9.06	4.93	4.22	22.90	13.61
80	11.19	4.41	0.23	11.21	9.04	3.80	4.22	15.28	10.57
81	12.10	-16.71	-0.62	8.85	7.57	3.15	4.02	9.55	9.90
82	9.26	13.73	0.26	15.29	11.51	4.64	5.07	17.26	16.62
83	4.55	17.21	2.56	13.36	11.66	4.40	4.70	15.99	15.07
84	3.76	2.50	-0.64	9.55	8.42	3.08	3.72	9.91	10.45
85	4.35	19.95	-0.34	9.77	8.72	2.83	4.03	5.76	9.08
86	4.17	8.71	-1.59	3.87	6.56	0.60	3.34	-6.24	1.24
MAX.	12.32	19.95	7.31	15.29	11.66	4.93	5.07	25.44	16.62
MIN.	1.48	-23.26	-2.19	3.58	3.82	0.60	2.76	-6.24	1.24
MEAN	6.92	3.59	1.32	8.53	7.16	2.85	3.68	11.05	9.46
Percentage increase in variability over no inflation protection				83	100	63	87	77	94

